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EXPORT OF ALASKAN CRUDE OIL

HEARINGS

BEFORE THE

SUBCOMMITTEE ON
EAST ASIAN AND PACIFIC AFFAIRS

OF THE

COMMITTEE ON FOREIGN RELATIONS
UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

FIRST SESSION

ON

EXPORT OF ALASKAN CRUDE OIL—FOREIGN
POLICY IMPLICATIONS

JULY 19 AND 20, 1983

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EXECUTIVE SUMMARY

The Subcommittee on East Asian and Pacific Affairs met on July 19 and 20, 1983, to hear testimony concerning the foreign policy implications of the Alaska crude oil export ban.

Background

In 1969, the largest oil field on the North American continent was found at Prudhoe Bay, on the North Slope of Alaska. Two competing proposals were advanced for transporting this oil from the North Slope to market: a pipeline across Canada into the Midwestern United States and an all-Alaska line to carry oil to waiting tankers at Valdez, Alaska.

The latter proposal was adopted, in spite of a variety of concerns, including one that the oil would be exported rather than shipped to the United States. Congressional action was required to authorize the rights-of-way over Federal land.

Just after the 1973 oil embargo, Congress passed the Trans-Alaska Pipeline Authorization Act, granting the Federal rights-of-way. It included a provision which prohibited the export of Alaska oil unless the President made certain findings relating generally to the national interest and the quantity of oil available to the United States. These findings were subject to congressional disapproval.

In four successive acts during the 1970's, Congress added restrictions on Alaska crude oil exports produced on non-Federal lands: the Export Administration Act of 1974, the 1975 Energy Policy and Conservation Act of 1975, the Export Administration Act of 1977, and finally, the Export Administration Act of 1979. In addition, the Naval Petroleum Reserves Production Act of 1976 and the Outer Continental Shelf Lands Act of 1978 prohibit the export of any oil produced from these Federal properties unless the President makes certain findings which warrant an exemption.

Of these acts, the restrictions in the Export Administration Act of 1979 (EAA), though obstensibly permitting export if the President can make certain findings, create an effective prohibition on export. The findings required of the President are extremely difficult to make under free market conditions.

The EAA expires on September 30, 1983 and legislation to extend its provisions is currently being considered by both Houses of Congress. Various other committees, including the House Foreign Affairs Committee and the Senate Banking Committee, have examined the necessity of maintaining these restrictions. Prior to the Senate Foreign Relations hearings, no committee had focused specifically on the foreign policy implications of this U.S. oil embargo.

SENATE FOREIGN RELATIONS HEARING

On July 19 and 20, 1983, the Subcommittee on East Asian and Pacific Affairs, chaired by Senator Frank Murkowski, heard testimony from 14 witnesses on the foreign policy implications of the Alaska crude oil export ban. Other parties submitted written testimony for insertion in the hearing record. Both sides of the issues were heard.

Testifying in support of modifying current legislation to permit limited exports were: Robert S. Ingersoll, former U.S. Ambassador to Japan; Robert Heller, Vice President for International Economics at the Bank of America; Daniel Yergin, internationally known author on energy issues; Andrew Palmer, testifying on behalf of both the Environmental Policy Center and Public Citizens Congress Watch; Marshall Hoyler, transportation consultant and former Department of Energy analyst; and C. N. Winningstad, Chairman of Floating Point Systems, an Oregon computer manufacturer. None of these witnesses, nor their organizations, would receive direct financial benefits from limited export.

The Reagan Administration sent three witnesses to testify before the Subcommittee: William Krist, Acting Assistant U.S. Trade Representative; Richard McCormack, Assistant Secretary of State for Economic Affairs; and Jan Mares, Assistant Secretary of Energy for Fossil Fuels. These administration witnesses all spoke favorably about the national benefits of limited export.

No organization with an immediate economic interest in lifting the ban testified at the hearing. However, testimony in favor of easing restrictions was submitted for the record by Shell Oil Company, Ashland Oil Company, Petro-Lewis Oil Company, and the State of Alaska.

William Hogan, Principal of Putnam, Hayes & Bartlett, and Chairman of the Public Policy Program at Harvard University's John F. Kennedy School of Government, presented the findings of a study his firm did on this issue. The PHB analysis was commissioned by Alaska Lumber and Pulp Company, which favors a partial relaxation of the export ban.

Testifying in support of retaining the ban, in its current form, were: Jack Goldstein, Vice-President and Senior Economist of the Overseas Shipholding Group; Howard Marlowe, Associate Director of Legislation for the AFL-CIO; and Mark Cooper, of the Consumer Energy Council of America. These witnesses opposed any relaxation of the current export ban. Two of these witnesses represent organizations which would continue to receive direct and substantial financial benefits if Congress retains the ban.

In addition, John Beyer, President of Robert R. Nathan Associates, presented the findings of his firm's analysis of this issue. The study was commissioned by the American Maritime Association, an organization strongly opposed to export.

The advantages and disadvantages of the export ban were discussed in the following terms: economic, national and energy security, and international trade. Also, witnesses on both sides of the issue noted the vested interests of their opponents in this issue. Highlights from testimony in each of these areas are found in the following sections.

V

ECONOMIC IMPLICATIONS OF THE EXPORT BAN

The consensus of those witnesses without a direct economic interest in this issue was that permitting Alaska oil exports results in the following national benefits: increased economic efficiency, more Federal tax revenues and a reduced subsidy to the maritime industry. Those witnesses with a direct financial interest in maintaining the ban generally agreed that export would increase tax revenues and reduce the amounts received by various maritime interests; however, they did not perceive these impacts to be advantageous.

Mr. Mares (Department of Energy) presented the economic case for easing export restrictions: "the primary argument in favor of lifting the ban is economic. The benefits of eliminating the export ban would be reduced cost for transporting and refining petroleum to meet domestic energy needs. Initial estimates indicate the total discounted present value of savings through 1990 in oil transportation and refining costs that would result from the lifting of the ban range from $3.6 to $5.4 billion."

Mr. Hogan (Harvard University and PHB) noted that the current "Rube Goldberg" transportation route for Alaska oil moving to the Gulf Coast is "a far more inefficient and expensive process than sending the oil to its natural market in the Pacific Rim."

In addition, because the oil is moving between domestic ports, it must be carried on Jones Act ships which are more expensive to operate than foreign flag ships. Thus, the maritime industry gains, in the words of Mr. Ingersoll (former U.S. Ambassador to Japan), a "captive customer."

According to William Hogan (Harvard/PHB), Alaska oil is sold at the world market price on the West and Gulf Coasts. However, the Windfall Profits Tax and other taxes are not levied on the market price, they are levied at the wellhead on the North Slope. Because the cost of transportation is deducted from the market price of oil to determine its wellhead value, transportation costs have a direct bearing on the amount of WPT collections. As transportation costs go up, the wellhead value goes down, thereby reducing tax revenues. If companies are able to reduce transportation costs, the wellhead value goes up and tax collections rise.

Mr. Hogan estimates that $3.90/barrel could be saved on each barrel of Alaska oil that is exported rather than being shipped to the Gulf; the Federal Government would capture about 62 percent of that savings in WPT and other taxes. He further estimated that the cost to the nation of the current export ban over the next 10 years would be about $2.4 billion because we are not able to take advantage of these transportation savings.

John Beyer (Robert R. Nathan Associates) disagreed with this assessment, saying his analysis led him to the conclusion that the present ban on oil exports should be maintained because of his calculation that there would be small negative impacts to the economy. Mr. Beyer concluded that the Federal Government, the State of Alaska and the oil companies would benefit from oil exports, and the independent shipping companies and West Coast consumers might lose financially. Mr. Beyer acknowledged that the impact on West Coast consumers was speculative; in his remarks, Mr. Hogan suggested that the limited amount of oil exported would not affect the West Coast market, hence no consumer impact would be felt.

Former Ambassador Ingersoll noted that, "except for those interests such as the maritime unions and the investors in ships and pipelines, I cannot understand where there would be any opposition to the sale of Alaskan oil internationally."

ENERGY SECURITY IMPLICATIONS OF THE EXPORT BAN

The consensus of the Administration and those experts without an economic interest in export was that U.S. energy security would be enhanced by export of Alaska oil. Jan Mares (Department of Energy) stressed that permitting export of oil from new field production in Alaska would be an incentive for new production. This new production would, in turn, reduce the U.S. level of net oil imports.

Robert Heller (Bank of America), Richard McCormack (State Department), Daniel Yergin, and William Hogan (Harvard/PHB) all noted that the United States is committed under the International Energy Agreement to share its oil supplies with Japan in an oil supply disruption. Any crude exports would be credited against the amount of domestic oil that the United States is committed to share with its allies in an emergency. Thus, export of Alaska oil would not increase U.S. commitments.

In fact, such exports would enhance our allies perception of the United States as a reliable energy supplier and their perception of our commitment to our obligations under the International Energy Agreement. Mr. Hogan echoed these conclusions by saying that there was a "great deal of skepticism in Japan and other consuming countries about our sincerity to deliver during these energy emergencies and * * * that [this] has cost us dearly in the past."

Contrary to the arguments of the ban's proponents, both Mr. Yergin and Mr. Hogan argued that prohibiting the export of Alaska oil does not increase our energy security. They suggest that a nation's vulnerability to a disruption should be measured not only in terms of physical supplies of oil, but also in the effect of higher prices on the economy. A shortfall in supply drives up the world price everywhere. The price of Alaska oil delivered on the Gulf Coast is similarly affected.

In other words, regardless of whether our oil supplies are from Alaska or Mexico, in an oil supply disruption the price will be the same, albeit much higher. Dr. Hogan suggested that the United States benefits if no other country is so overly dependent on one source of crude oil that it bids up the price in a panic. Prohibiting the export of Alaska oil only serves to increase the vulnerability of countries such as Japan, leading to panic buying which drives prices up further than may be warranted by the size of the disruption.

NATIONAL SECURITY IMPLICATIONS OF THE EXPORT BAN

Many witnesses cited the interest of the United States in seeing Japan's sources of crude oil diversified. Mr. Yergin stated the case most succinctly:

> It seems to me that it is in our security interest to see Japan as a diversified importer. * * * The Japanese panic in 1979 was one of the main forces that drove up prices. If some of their supplies are coming from the United States, I think they would have more security, we would have more influence—that that would serve our interests during a crisis. * * * I am one who believes that closer relations with both Japan and Western Europe are fundamental to our national security and that the more we can strengthen those relations on all levels, the safer we will be.

Opponents of export noted that oil is a scarce commodity and that our economy and armed forces depend upon it. Mr. Yergin dismissed the claim that Alaska oil is vitally important to the defense of the United States by saying that he has never heard anyone at the Pentagon argue that export of 200,000 barrels a day, about 2 percent of U.S. production, would "cripple the Pentagon."

Assistant Secretary McCormack noted that exporting some Alaska crude to Japan, which is heavily dependent on Persian Gulf oil, would promote the energy security of a key ally by diversifying its sources of supply. The significance of this point for U.S. national security interests is underscored by the fact that the Japanese are currently considering energy arrangements with both the Soviet Union and China.

INTERNATIONAL TRADE IMPLICATIONS OF THE EXPORT BAN

Mr. Robert Heller (Bank of America), focussed on the international trade aspect of the ban in his remarks. He argued that because of the varying resource endowments of Pacific Rim nations, international trade is vital to the growth of this region.

He cited Japan, Korea and Taiwan as examples of countries which rely very heavily on imported commodities, whereas other Pacific Rim countries such as Australia, Indonesia and the United States are well-endowed with resources. Mr. Heller said that Japan is forced, by the realities of its need for imported resources, to be an exporter of manufactured products. He indicated that the United States had greater flexibility in its trade policy but that it had a tendency to encourage exports of manufactured goods over exports of commodities, such as coal and oil.

Mr. Heller also stated that "eliminating the unreasonable restrictions against U.S. oil exports will also affirm the leadership of the United States in the fight against protectionism," a battle he termed "crucial for the restoration of global growth and prosperity."

Senator Murkowski noted that opponents of oil export argue that its favorable impact on the U.S./Japan bilateral trade deficit would reduce pressure on the Japanese to make trade concessions on manufactured goods. Mr. Heller characterized this argument as akin to shooting yourself in the foot; he noted it was a backward approach to the problem of this trade imbalance.

IMPLICATIONS OF THE BAN ON OUR RELATIONSHIP WITH JAPAN

An underlying theme throughout the hearing of those who favor lifting the ban was that the existence of the Alaska oil export ban damages our relationship with the Japanese. Because Japan represents the logical market for oil which is surplus to the requirements of the U.S. West Coast, a ban on exports may be construed by the Japanese as an oil embargo directed against them. As a number of witnesses noted, any U.S. policy conveying such an impression towards one of our most important allies damages their trust and confidence in their relationship with us.

Not only does such a policy affect our allies' trust in the United States, it also provides an example of the conflict in U.S. trade policy. While the United States bans the limited export of crude oil, it permits export of large quantities of refined products, including some to both our ally, Japan, and our adversary, the Soviet Union.

As Senator Murkowski noted in questioning, there seems to be an inconsistency on the part of the ban's advocates, who fear the export of crude for reasons of national and energy security while at the same time essentially ignoring substantial export sales of more valuable, from a security standpoint, petroleum products.

Former Ambassador Ingersoll noted that he concurs with Ambassador Mike Mansfield's assessment that the U.S./Japan relationship is the most important bilateral relationship in the world. He went on to say that this relationship has recently been deteriorating because of economic difficulties in the United States and that "it is extremely important that we not let these economic and trade issues overshadow the importance of the overall relationship."

He added that: "The gesture of making Alaska oil available to Japan at this time would not only reduce our trade imbalance but would be a symbolic move on our part to demonstrate America's willingness to take action on the trade issue ourselves, rather than always asking the Japanese to make politically difficult moves unilaterally. This would be an opportunity for us to take a constructive course in improving our relationship with Japan."

ECONOMIC INTERESTS AND POLITICAL POSITIONS

Advocates on both sides of this debate attributed motives of economic self-interest to the other, with respect to their position on this issue.

Many of the witnesses supporting export of Alaska oil acknowledged the self-interest of the maritime industry in preserving its "captive customer" and the "implicit subsidy" that is associated with the export ban, which has been estimated at up to $3.3 billion over the next 10 years.

To counter this, labor and maritime representatives have asserted that supporters of Alaska oil are narrow special interests, principally the Japanese and Alaskans.

Marshall Hoyler (transportation consultant) took this issue one step further by asserting that the strong interest of the maritime unions in maintaining the export ban has been translated into extensive political contributions and associated lobbying. He noted that maritime union political action committees (PACs) contributed $2.2 million to candidates for Congress in 1981–1982, and that each maritime union member contributes about 31 times as much to their PACs as do members of the next most generous union. [Note: Maritime interests had the opportunity to respond in kind about any PAC contributions from the proponents of export; no such data was submitted for the record.]

LIMITED EXPORT

Throughout the hearing, various witnesses proposed that a middle ground be taken on the oil export issue. Beginning with the chairman's opening remarks and those of former Ambassador Ingersoll, through the closing comments by Daniel Yergin, all witnesses favoring export explicitly recognized the "good faith" commitment made by the American maritime industy in ships and crew to carry Alaska oil. Thus, no advocate of export suggested lifting the ban entirely.

However, each witness who spoke favorably about the benefits of export concurred that there must be some approach that would allow Americans to gain the benefits associated with export without breaking faith with the maritime industry.

In response to suggestions that a "compromise" might be reached on the issue of Alaska oil exports, Howard Marlowe of the "Coalition to Keep Alaska Oil," asserted that the Coalition strongly opposes a compromise proposal allowing export of 200,000 b/d on U.S. tankers. Mr. Marlowe noted that "limited exports offer few of the alleged benefits of high volume exports and all of their liabilities."

In contrast, William Hogan (Harvard/PHB) reported that because of natural attrition and retirements in an industry which is shrinking and growing older, "it is possible to allow a partial lifting of the export ban with little or no impact on the maritime industry. * * * If the United States oil export policy were designed to protect only the existing ships and workers, it would be possible to export approximately 200,000 b/d in 1985, growing to over 500,000 b/d by 1990."

Mr. Hogan also asked whether it was in this country's best interest to encourage the commitment of additional economic resources, in the form of new workers and new tankers, into this segment of the maritime industry simply to allow them to take advantage of a Federal subsidy, when limited export could address the subsidy issue with no adverse impact on existing workers.

SUMMARY

Almost every witness, regardless of his position on the issue, recognized the legitimate concerns of American maritime employees and investors who have made commitments to the current transportation pattern for Alaska oil.

On balance, most witnesses—and importantly every witness who does not have a vested economic interest in the issue—support easing export restrictions because such an action would: increase Federal revenues; enhance national and energy security; improve our relations with Japan; and strengthen our negotiating position with the Japanese on other trade matters.

FRANK H. MURKOWSKI,
Chairman, Subcommittee on
East Asian and Pacific Affairs.

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EXPORT OF ALASKAN CRUDE OIL

TUESDAY, JULY 19, 1983

UNITED STATES SENATE,
SUBCOMMITTEE ON EAST ASIAN AND PACIFIC AFFAIRS
OF THE COMMITTEE ON FOREIGN RELATIONS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 2:09 p.m., in room SD-419, Dirksen Senate Office Building, Hon. Frank H. Murkowski (chairman of the subcommittee) presiding.

Present: Senator Murkowski.

Senator MURKOWSKI. We will call to order the Subcommittee on East Asian and Pacific Affairs. I want to thank you for being here. I also want to thank the chairman of the Foreign Relations Committee, which this subcommittee is a part of, Senator Percy, for allowing us the time to hold this very important hearing.

With that brief introduction, I will go into some short opening remarks. This is the first of 2 days of hearings before the Foreign Relations Subcommittee on East Asian and Pacific Affairs concerning the foreign policy implications of Alaska oil exports.

The subcommittee is honored to have the former Ambassador to Japan, the Honorable Robert S. Ingersoll, here today. Ambassador Ingersoll, we appreciate your coming from Chicago and expect to hear some valuable insights on United States-Japanese relations. We hope the temperature here is not too uncomfortable.

I would also like to welcome Mr. Robert Heller, vice president for international economics, Bank of America; Mr. John Beyer—I hope that is the correct pronounciation—president of Robert R. Nathan Associates; and Mr. William W. Hogan of Putnam, Hayes & Bartlett.

Tomorrow we are going to be hearing from administration representatives. Testifying will be a representative from the Office of the Special Trade Representative, Mr. William Krist, Acting Assistant U.S. Trade Representative; in addition Assistant Secretary of State for Economic Affairs, Richard McCormack, and Assistant Secretary of Energy for Fossil Energy, Jan Mares.

We have Mr. C. N. Winningstad, chairman of Floating Point Systems, Inc., based in Portland, Oreg., and a representative of the shipping industry, Mr. Jack Goldstein, vice president and senior economist of the Overseas Shipholding Group; and Mr. Howard Marlowe of the AFL-CIO.

Also with us will be Mr. Marshall Hoyler of Washington, D.C., a consultant; and Daniel Yergin of Cambridge Energy Research Associates. In the consumer area we will have the benefit of representation by Mark Cooper, research director, Consumer Energy Council of America, and Andrew Palmer, who appears on behalf of the Environmental Policy Center and Congress Watch.

I look forward to the testimony of these experts on what has been referred to as a controversial issue, to say the least. Export of Alaskan crude oil is a sensitive issue, but by no means a new one. It has been with us for over a decade, since 1969, when Congress gave the President broad authority under the Export Administration Act to restrict exports, including petroleum.

Debate intensified during consideration of the Trans-Alaska Pipeline Authorization Act in 1973, and the oil crisis of 1973 and 1974, and again in 1979. In fact, much of the opposition to export stems from the painful memories associated with those oil crises.

It is well known and no secret to most of you that I am a supporter of Alaskan oil exports. I believe that exports are in the best interest of our country, but I have always stressed that they should be carried in U.S.-built vessels.

I would hope that this hearing would develop a record as to whether or not it is now time to allow prevailing market forces to dictate the distribution of Alaskan oil and whether or not it is fair that Alaska is the only State in the Nation which has such severe restrictions on exporting oil.

If our concern of security of supply is a problem, why do we not prohibit export of refined petroleum products? No law now prohibits the export of these products, exports that currently are reaching 650,000 barrels a day, including, I might add, 10,000 barrels a day to the Soviet Union. Yet we still prohibit by existing law crude oil exports to our friendly neighbors in the Pacific. In light of these inconsistencies, is it not time that we cut off the export of refined products as well?

I would like to insert for the record a statement detailing my views on the subject, together with a statement submitted by Ambassador Mansfield, our Ambassador to Japan, in support of the export of oil from Alaska to the Pacific rim countries.

[The statements referred to follow:]

STATEMENT OF HON. FRANK H. MURKOWSKI

FOREIGN IMPLICATIONS OF OIL EXPORTS

The witness list for these hearings represents the many and varied interests associated with exporting U.S. oil. I expect that we will hear some discussion on the historical background of the restrictions on oil exports.

I don't think we need to go into great detail on the reason for imposing export restrictions. They are well known to most of us. What I hope to hear, and what I intend to address in the hearing record is the question: "Do these restrictions still serve the best interests of the American people?"

I call upon my colleagues and all interested parties, to reevaluate the issue as it stands today. This is no longer 1969, or 1973, or 1979. Isn't it perhaps time to allow the normal market forces to dictate the disposition of Alaskan oil? Is it fair that Alaska is the only State in the Nation which has such severe and economically artificial restrictions on exporting oil? If our concern is security of supply, why don't we prohibit export of refined petroleum products? No law now prohibits the export of these products, exports that currently reach 650,000 barrels a day, including 10,000 barrels a day to the Soviet Union. Yet we still prohibit by existing law crude oil exports to our friendly neighbors in the Pacific.

At the same time, I must assert at the outset that I will only support the export of Alaskan oil on the condition that it is carried in vessels constructed in the United States.

Since the TAPS Authorization Act prohibited export of oil, the oil companies built their tankers on the assumption that their oil could not be exported. This meant a substantial investment in Jones Act vessels.

Continued maintenance of a U.S.-flag fleet is vital not only to our trade and commercial interests, but also to our national defense.

I submit that circumstances have changed so much since the oil crisis of 1973 and 1979 that the restrictions, if ever beneficial to American interests, are no longer advantageous or sensible.

Changes in energy supply, in energy markets, in energy costs, and in energy security needs, now render the restrictions on oil export obsolete, unfair, unrealistic, and contrary to our national interests.

A. ENERGY SUPPLY HAS CHANGED

Energy supply and market conditions have significantly altered since 1969, when Congress gave the President broad authority under the Export Administration Act to restrict exports, including petroleum. The debate over whether to export or not intensified in 1973 during consideration of the Trans-Alaska Pipeline Authorization Act and again during the oil crisis of 1974 and 1979. In fact, much of the opposition to crude oil exports stems from painful memories associated with those oil crises.

But new discoveries of oil in Alaska and California continue to inflate the west coast surplus to huge proportions. Total potential recoverable oil reserves according to the National Petroleum Council have been estimated at 24 billion barrels for Alaska and 8.2 billion on the west coast. The surplus has already grown by some 20 percent since 1978 to a current level of about 815,000 barrels per day. In 1978, 68 percent of the oil produced by Alaska was sold on the west coast. By the first quarter of 1983, only 47 percent of that oil was absorbed by west coast markets. The balance—800,000 out of 1.5 million barrels that flow through TAPS each day—goes through a Panama pipeline to gulf and east coast markets.

Recent discoveries on the coast of California will reach the production stage within the next 2 years. Additional discoveries made in Alaska will only contribute to the west coast surplus. It seems contrary to reason to withhold from the President the authority—when he determines that it is in the national interest—to sell a fraction of this surplus. It makes economic sense to sell some of this surplus in the most logical market—the Pacific rim countries.

Because the west coast cannot absorb the oil produced from the North Slope, and since the Northern Tier Pipeline Co. has announced that it will not go ahead with its project, the need for a viable alternative market for Alaskan oil is growing. Such a market will stimulate oil and gas production in Alaska. According to an Alaska State official, exports would provide an incentive to develop the smaller ("small" only by Alaska standards) North Slope fields, i.e., those with reserves of less than 500 million barrels. The U.S. Department of the Interior calculates that lifting the ban would result in an increase in the value of new oil discoveries between $20 and $50 billion over the productive life of the North Slope leases. Increased oil supply would also reduce to ability of any one producer, or group of producers such as OPEC, to control the world market, bringing us one step closer to energy security, not only for the United States, but for our allies.

B. ENERGY COSTS HAVE CHANGED

In 1982, more Alaskan oil was transported to the gulf and east coasts than remained on the west coast, and this trend is likely to continue. The cost to consumers of this form of domestic "export" of oil is enormous.

As you can see from the diagrams, the cost of moving one barrel of oil from Valdez, Alaska, to the gulf coast is between $4 and $5, depending upon whether it crosses the Panamanian Isthmus by vessel or by pipeline. The estimated cost of moving a single barrel of oil from Alaska to a destination in the Far East ranges from 60 cents to 90 cents, depending upon whether it is carried in a U.S.- or a foreign-flag tanker. With U.S.-flag tankers, there could be a savings of at least $2 per barrel in transportation costs.

For every $1 saved on transportation, approximately 60 cents goes to the Federal Treasury. Thus, with a limited export of 200,000 barrels per day, the U.S. Treasury would reap an additional $175 million each year.

Alaskan oil is not cheaper than imported oil. The world market price is established by the price of Saudi light. Thus, Alaskan oil is sold on the gulf coast at the world market price and competes with imported crudes from all over the world.

Alaskan oil is, on the other hand, the most expensive oil in the world to produce. Extremities of climate and distance create unique problems and call for huge investment.

At present, Alaskan oil originates in the highest cost area, the North Slope, which must amortize an 800-mile, $8 billion pipeline (the most expensive construction project in the free world). The oil is loaded on U.S.-flag vessels in Valdez for a 4,400-mile Pacific Ocean journey to the Isthmus of Panama, where it is unloaded, transported through another pipeline, and reloaded onto smaller U.S.-flag vessels for distribution in the gulf and east coast. In spite of the great distance and the several carrier changes, Alaskan oil is still competitive in the world marketplace. It can surely be carried the short distance across the Pacific from Alaska in U.S. vessels and remain competitively priced in the world market.

The cost of moving Alaskan oil an additional 2,000–3,000 miles is borne by the American taxpayer. Since the windfall profit tax is 70 percent of the amount by which the wellhead value exceeds the base price (after deducting transportation costs), it is estimated that the Federal Government loses some $700 million in transportation revenues on the west coast surplus at the current volume of some 800,000 barrels transported halfway around the continent. The revenue loss to the State of Alaska is approximately $170 million.

C. ENERGY SECURITY NEEDS HAVE CHANGED

In the years since those oil crises, our energy security picture has improved significantly. In terms of our total energy requirements, oil imports have dropped from 19 percent in 1980 to 11 percent in 1982. Energy imports overall have dropped from 27 percent in 1977 to 9 percent in 1982. In other words, America is becoming more energy self-sufficient.

American security rests today not just on domestic oil supply security, but on U.S. leadership in the world. Our allies' vulnerability to energy disruption presents the Soviets—and others—with opportunities to weaken or damage our Western alliances. Refusal to sell oil to our Pacific rim allies is inconsistent with other U.S. assurances of support.

It is shortsighted to spend hundreds of billions of dollars on our military budget while at the same time ignoring these threats to the security of our allies and to broader U.S. foreign policy objectives. Even were the United States, in an effort to reduce its own vulnerability to oil supply disruptions, to embargo exports of crude oil, we would remain at risk because of our interdependence with allies who are less able to reduce their import dependence.

The damage to the U.S. economy wrought by a major disruption in oil supplies to the East would not be mitigated by the existence of Alaska North Slope oil because the physical security of Alaska North Slope crude cannot be assured. Rather, much more significant factors would be the capacity of the lower 48 States to increase their oil production above the current level of 7 million barrels a day, or of Mexico to increase its exports to the United States.

North Slope oil is shipped to the gulf coast through 880 miles of pipeline and over 6,000 miles of water. Such a long supply line would work about as well as it did for Napoleon in Russia. The trans-Panama pipeline or the Canal could very well be vulnerable to sabotage should guerrilla movements or political instability spread in Central America.

On the whole, it makes better sense to import 200,000 barrels a day to the gulf coast from Mexico to make up for any short falls. Not only will our consumers benefit because of lower transportation costs, but it will contribute to the economic revitalization of our neighbors and allies.

As an example, exports to Japan would also establish a stronger energy relationship with the Japanese by reducing their 87 percent import dependence on OPEC, and would discourage their interest in Chinese and Russian energy supplies. Our prohibition of the export of Alaska North Slope oil under nonemergency conditions raises questions about our cooperative intentions toward our Pacific Rim neighbors. Regular exports would reassure Japan and our other Pacific Rim allies that the United States will honor its commitments in an energy crisis.

Another vital benefit to allowing oil exports would be their effect on our balance of trade deficit with Japan, a deficit last year of nearly $17 billion, expected to hit between $20 and $30 billion in 1983. This deficit has caused consternation among members of Congress and led to the introduction of several protectionist measures. Protectionist legislation rarely improves our relations with our allies, whereas supplying a product which Japan and other Pacific Rim countries desperately need would benefit everyone concerned. For each 100,000 barrels per day exported, our deficit would fall by approximately $1 billion. Oil exports would ease some of the tensions between the two countries and provide negotiating leverage as the United States deals with other bilateral trade problems.

Most important, if we're worried about our own energy security, why, as I mentioned earlier, does the United States already export 650,000 barrels per day to Japan and other Asian allies, and 10,000 barrels a day to the U.S.S.R.? It makes little sense that petroleum products should be considered of less value, from an energy security point of view, than crude oil.

And the trade in petroleum products is growing, and will continue to grow as new California production augments the surplus in heavier products. It is absurd to ban exports of crude oil at a high cost to taxpayers, and which is surplus to the needs of west coast consumers, while at the same time permitting exports of petroleum products.

I suggest that we have been looking at this issue backwards. We've been considering the advantages of the prohibition on oil exports, not the benefits of a repeal of that prohibition. We have talked of the advantages of saving oil—of keeping it in the ground—rather than of the financial benefit—that would accrue to the Federal Treasury and the consumer by getting the oil out and exporting it.

Rather, let us consider who would be the beneficiaries of lifting the ban.

The Federal Government would certainly benefit. The projected revenues could be used to reduce our national debt, or to increase purchases for the strategic petroleum reserve. Again, even a small amount of oil flowing to Asia would mean an additional $175 million for the Treasury. In addition, limited exports would reduce our bilateral trade deficit with Japan by about $2 billion a year.

The State of Alaska too would gain in revenues. Jobs would increase as a result of both oil and gas development and diversified energy trade with Pacific nations.

The consumer would benefit—since price competition in a more natural marketplace would lead to lower costs.

And the maritime industry would benefit, because trade, not only in oil but potentially in gas and coal, would increase with Pacific Rim nations.

And the health of the nation overall would be secured by an improved balance of trade, greater energy security, and better relations with our allies.

It is in the national interest to lift the prohibition on exporting domestically produced oil from Alaska—now!

STATEMENT OF HON. MIKE MANSFIELD, AMBASSADOR TO JAPAN

Thank you very much for the opportunity to comment on the issue of the export of Alaskan oil which will be under consideration at your subcommittee's hearings July 19 and 20.

I strongly support the lifting of the prohibition on the export of Alaskan oil. I believe that freedom for Alaska to export oil overseas would be beneficial to Americans and good for our country. Consumers will benefit through purchase of lower cost energy from other sources. Production will be stimulated, and tax revenues accruing to the Federal Government and State of Alaska will increase. The U.S. balance of payments will be strengthened and the energy security of the United States and its allies enhanced. Moreover, I am confident that a means can be found to lift the ban on export of Alaskan oil without impairing the interests of the U.S. Maritime Unions.

The potential market for American energy exports in Asia and the Pacific is large and growing. I know that in Japan there is definite interest in increasing imports from the United States and in diversifying sources of energy supply. Both the Japanese Government and the private sector have assured me they would welcome the removal of the export prohibition. I would anticipate that shipments would be at modest levels initially but could increase over time as relations between Japanese firms and U.S. suppliers develop.

I would like to emphasize that one of the main economic objectives for the United States at this time is increasing our exports, particularly to the countries of Asia and the Pacific which have become the largest trading partners for the U.S. Expansion of energy exports can help in the revitalization and growth of the American economy.

I would like to stress that the future for the United States is in the Pacific. Growth in trade with these countries has brought and will continue to bring important economic benefits to Americans. In our efforts to build closer economic ties to Japan and other countries of the Pacific I do not believe we should handicap ourselves with artificial controls on exports of Alaskan oil. Congressional action to let the prohibition on exports of Alaskan oil lapse would be both proper and wise, and I hope it can be accomplished soon.

Senator **MURKOWSKI.** I have articles in which both President Reagan and Secretary Shultz express their support for exporting oil, which we will include in the record at this point.

[The articles referred to follow:]

[From the Journal of Commerce, July 6, 1983]

REAGAN ADMINISTRATION FAVORS ALASKAN EXPORTS

TOKYO.—The Reagan administration, apparently hoping to correct the U.S. trade imbalance with Japan, said Tuesday it favored the partial lifting of a ban on Alaskan oil exports.

A U.S. government official, briefing reporters at the end of a two-day joint U.S.-Japan energy consultation meeting, said the Japanese expressed interest in buying up to 200,000 barrels of Alaskan oil a day, once the crude is available on the market.

Congress imposed the export ban as one of the conditions for financing the construction of the Alaskan pipeline which transports the crude exclusively to the domestic market.

"We didn't break any new ground in terms of existing impediments to the export of Alaskan oil, but we made it clear that we are in favor of lifting the ban," said the official, who spoke on the condition that he would not be identified.

"Virtually everyone in Washington agrees that in economic terms, a partial lifting of the ban makes sense," he said.

Japan has repeatedly suggested that the Americans lift the export ban to correct the U.S. trade deficit with Japan, which ran to a record $20 billion last year.

During the two days of talks, Japanese government officials "made it clear that they are interested in Alaskan crude," the American official said.

The United States anticipates Japan would be the biggest buyer but also expects some demand in other industrialized East Asian nations, including South Korea and Taiwan, he said.

A lifting of the ban is opposed by the U.S. shipping industry, which enjoys exclusive rights to a lucrative trade in oil between Alaska and other states. Transportation costs between Alaska and the East Coast of the United States run about $5 per barrel.

The cost of transporting Alaskan crude to Japan would be about 90 cents a barrel, the official said. Alaska now produces about 1.6 million barrels of oil a day.

The U.S. team, led by Under Secretary of State Allen Wallis, also urged the Japanese to buy more American coal.

"The Japanese have tended to treat us as a swing supplier of coal" because overland transportation costs have made U.S. coal more expensive than Australian coal, the official said.

The administration has urged the Japanese to conclude long-term contracts with American suppliers to provide inducements for them to build a more efficient transportation infrastructure which would in turn reduce costs, he said.

Recent projections show that Japan will import about 100 million tons of coal annually until 1990.

[From Business Week, Feb. 14, 1983]

INTERVIEW WITH PRESIDENT REAGAN

Question. Turning to the international scene, is the current disarray in OPEC a positive development for the Western economies?

Answer. I have to believe this. Long-range, anything that lowers the price of oil for the consumer is good. In the short range, I can see where there could be trouble for some of the lesser developed countries that are dependent on oil exports. I know there will be some short-term problems.

Question. During the recent visit of Japanese Prime Minister Yasuhiro Nakasone, did you receive assurances that Japan will take serious steps to correct the imbalance in U.S.-Japanese trade?

Answer. I think that Primie Minister Nakasone is sincere. We are well aware of the political problems that he faces, and we know he can't wave a wand and make instant changes. He's a little bit like me. He's got a Diet to work with. But I believe he truly thinks we will all be better off if we have freer trade. He also sincerely feels that the U.S. and Japan are the two economic giants in the world and that, between us, we have a responsibility to help the world get out of this recession.

Question. Japan has long wanted to import oil from Alaska's North Slope, but foreign sales of that oil are prohibited by law. Would you seriously consider legislation to change that?

Answer. Yes, I would. It makes a lot of sense. We don't have refineries on the West Coast that can handle our Alaskan crude, so it has to be transshipped around the Panama Canal and then goes to Gulf of Mexico refineries. And it would be a short haul for Japan. It seems to me there is a benefit there for all of us.

Question. If Congress passed a local-content bill for autos or a trade-reciprocity measure, would you veto this legislation?

Answer. Without giving a blanket indictment—because there may be a program you'd think was suitable—in principle, I would veto protectionist legislation. I say "in broad principle" because protectionism has never worked. It becomes a two-way street. I oppose local content because it would lead to the kind of protectionism that would be harmful to all of us.

Question. Why do you want expanded legislative authority to move against unfair trade practices?

Answer. I think it would help us. But I also believe in quiet diplomacy. Once you start front-paging everything you are going to do, well, then you put the people you're dealing with in a kind of political corner, where they can't appear to be backing down. Prime Minister Nakasone, with great political courage, did a remarkable job in moving back tariffs. There are still other restrictions that are having an even worse effect than the tariffs, and we are going to work on that in May, at the Williamsburg economic summit.

[From the Anchorage Times, June 24, 1983]

PLANE PROBLEM EXTENDS SHULTZ' ELMENDORF VISIT

While at Elmendorf—they looked over the base's F-15 Eagle and tried out an F-15 flight simulator.

Air Force Capt. Thomas Christic said Shultz and his party, still on Washington, D.C., time, decided to rest late in the afternoon Thursday. They got up this morning in time for coffee and rolls before they took off, he said.

Murkowski and his wife, Nancy, caught a free ride home with Shultz. Murkowski had planned to fly commercially to Alaska this weekend for several appearances, but arranged to piggyback with Shultz. Mrs. Murkowski plans to remain in the state for the summer.

At their joint press conference both Shultz and Murkowski discussed a wide range of Alaskan and international issues, including the upcoming confirmation hearings for Anchorage businessman Tony Motley, President Reagan has named him assistant Secretary of State for inter-American affairs.

Motley has said he expected the hearings to turn into a potentially explosive review of the Reagan administration's policies in Central America, but both Shultz and Murkowski said they expect the confirmation to go smoothly.

Murkowski said he forsees "no problems whatsoever," And Shultz said Motley already has shown "great ability" as ambassador to Brazil. He was appointed to that post in 1981.

Although Shultz declined to comment on details of the proposed U.S.-Canada salmon treaty, Murkowski said he hopes the negotiations can continue.

"The fish are not going to wait for a treaty," he said. The two countries are "not that far apart" in their negotiations.

Asked about Alaska exporting oil overseas, Shultz said it is "strange" that the state is specifically prohibited by Congress from exporting its energy resources. He said he supports the export of Alaskan energy resources.

After the press conference with Shultz, Murkowski headed to Fairbanks for a speech and will return to Anchorage today for a reception for State Sen. Arliss Sturgulewski, R-Anchorage. On Saturday, he will be the keynote speaker at a conference on Asian studies at the University of Alaska-Fairbanks. He plans to return to Washington Sunday.

[From the Oil Daily, June 27, 1983]

SHULTZ FAVORS ALASKAN OIL EXPORTS

ANCHORAGE.—Secretary of State George Shultz says he favors exporting oil, as well as coal, from Alaska to the Far East.

Shultz, who was returning to Washington after a trip to the Far East, told reporters the Reagan administration believes "it must be possible to find conditions" under which Alaskan oil can be exported to the area. Shultz noted that it was "strange" that Alaska was the only state that must get congressional approval to export its oil while other states require only simple regulatory consent. He also noted the importance of Pacific Rim countries to trade relations of nations on the Pacific coast of the Western Hemisphere.

Senator **MURKOWSKI**. Our witness list for these hearings represents the varying views connected with this issue. It will provide the Congress and all Americans with a balanced discussion of the issue. I look forward to the testimony that is about to begin.

I would call our first witness, Hon. Robert S. Ingersoll, who is now a consultant in Chicago, Ill. Ambassador Ingersoll, would you please come before the committee and take your seat? Again, I am very appreciative of the fact that you were able to make yourself available and look forward to your testimony and would ask that you proceed.

STATEMENT OF HON. ROBERT S. INGERSOLL, FORMER AMBASSADOR TO JAPAN, WILMETTE, ILL.

Ambassador **INGERSOLL**. Thank you very much, Mr. Chairman. I find the temperature in Chicago is just about the same as it is here, not quite like Anchorage.

Senator **MURKOWSKI**. Next time you will have to come to Alaska. I guarantee you some relief.

Ambassador **INGERSOLL**. I was asked by your subcommittee, Mr. Chairman, to comment on the international perspectives of Alaskan oil imports and particularly its effect on United States-Japan relations. You already mentioned former Senator Mike Mansfield, who is our Ambassador to Japan, and he and others, including myself, believe that our most important bilateral relationship today is that with Japan.

Unfortunately, that relationship has been deteriorating somewhat in recent months due to the recession in this country, the high unemployment that many people believe has stemmed from Japanese exports to this country. It is extremely important that we not let these economic and trade issues overshadow the importance of the overall relationship.

I will not dwell on it, but I just want to mention that we want to keep that in mind throughout these hearings. This high unemployment, primarily in the auto and steel industry in the United States, causes some Americans to look for a scapegoat and although I do not believe anybody honestly can say that Japan has been unfairly exporting automobiles or steel to our country, they are the subject of the animosity and frustration that arises among Americans.

Most Americans do not realize that a similar anger and resentment is rising in Japan for the claims that Japan is unfair in its exports and that their market is not open. They believe that they have developed an efficient industry, which we helped them build after the World War II destruction, and they believe they are unfairly characterized as the villian in this particular case.

But it is up to both of our countries to find ways to minimize or eliminate those frictions. Certainly we should continue to ask Japan to open its markets even more than it has to date, but we in the United States ought to take some responsibility for trying to correct that trade imbalance as well, and I think the issue before us today is related to that subject.

I was American cochairman of a group that was appointed by President Carter and Prime Minister Ohira in 1979 called the Japan-United States Economic Relations Group. At that time we recommended the sale or swap of the excess amount of oil going to the west coast, approximately 600,000 barrels a day, that could not be refined on the west coast because of the capacity there. And it had, under the law, to be sold on the gulf or east coast.

We thought that there should be a modification to the law or legislation which prevented that excess oil from being sold in international markets and certainly Japan would be the logical customer just across the Pacific. And they very much would like to diversify their sources of supply so that they are not so dependent upon Persian Gulf oil.

In addition, we thought from studies that were made that there would be an economic benefit not only to Japan but to the United States in lower transportation costs of swapping oil needed on the east coast and gulf to come from other sources closer to the east coast and Japan could bring their oil directly from Alaska at a lower cost.

But since studying this situation in the middle of 1980, ships and pipelines and terminals have been built and ships have been manned by crews and I think it would be politically difficult for Congress to interfere with the labor that has already been committed to this transportation and to eliminate or obsolete the investments that were made in good faith based upon the laws at that time.

My present view is that with the extensive exploration for oil on the North Slope that additional supplies will become available and are becoming available, and I would recommend that those additional supplies beyond that which is already committed for, the 1,500,000 barrels a day, would be made available for sale internationally.

Again, I say Japan would be the logical buyer, but not the only one. There are several other countries in the Pacific Basin that would benefit by being able to buy oil from Alaska. In addition to that, the gas that is being produced in the Prudhoe Bay wells that is being repressurized and from the surplus that we have of gas in the lower 48 and the prices that are being quoted today, it is going to be some time before any of the Alaskan gas is sold in the lower 48.

For that reason, and because there is undoubtedly enough gas to sell for export as well as in the continental United States, should the economics justify a pipeline to the lower 48. I would recommend that this gas be made available for international sale. Again, Japan is the logical customer and would undoubtedly have the investment and capital resources to make the investment for pipeline and liquifaction and for ship transport. But the gas could sell to other countries, such as South Korea, that would need gas.

So I would certainly urge that Congress make the oil in excess of the 1.5 million barrels coming down today available for sale, as well as the gas which is in plentiful supply and would improve our bilateral relationship with Japan, would increase taxes to the State of Alaska, as well as the Federal Government, and would increase the profits of our oil companies operating there.

Mr. Chairman, that is the extent of my testimony.

Senator MURKOWSKI. I thank you, Mr. Ambassador.

Ambassador INGERSOLL. I submitted a written statement and I did not want to necessarily repeat all that.

Senator MURKOWSKI. I want to assure you that your statement will be included in the record.

Ambassador INGERSOLL. Thank you.

[Ambassador Ingersoll's prepared statement follows:]

PREPARED STATEMENT OF HON. ROBERT S. INGERSOLL

ALASKAN OIL EXPORTS FROM AN INTERNATIONAL PERSPECTIVE

When approval for construction of the Alaskan pipeline was granted by the U.S. Government, regulations were established preventing the export of oil passing through that pipeline to foreign countries. At this time the United States and its allies had been adversely affected by an embargo on the shipment of oil from Mideast countries and, when the embargo was raised, prices of that oil had quadrupled or quintupled. Consequently, it was considered desirable to keep all Alaskan North Slope oil for United States use.

The Alaskan pipeline delivered oil to Valdez, located on the southern coast of Alaska, with a year-round open harbor. From there, oil is delivered by tankers to the West Coast of the United States.

It turned out that the oil delivered from the pipeline and subsequently to our west coast was in excess of the refinery capacity there and, because of the embargo on exports, the balance of the oil was delivered by pipeline or ship to our gulf and east coast at considerably higher cost than oil imported from other sources because of the high transportation costs.

In 1979, the President of the United States and the Prime Minister of Japan appointed a group of private citizens—four from each country—to study the long-range economic and trade relationship between Japan and the United States. I served as cochairman of the American panel. Our group could see that energy was one of the major issues that could affect not only our economic but our political relationship with Japan in the following decade.

In our report to the President and the Prime Minister in January 1981 we recommended that the United States modify its embargo on the export of Alaskan oil, which was then about 600,000 barrels per day in surplus on the west coast, and permit a swapping of oil from other world sources already committed to Japan. It was calculated that many hundreds of millions of dollars in transportation costs would be saved, the benefit of which would accure to both countries.

While such a swap would not improve the overall U.S. trade balance, it would substantially reduce the bilateral trade imbalance between Japan and the United States. We in this country are well aware of the rising frustration and animosity being directed by Americans toward Japan at the present time for its large surplus in trade with the United States, but few Americans are aware of the anger and resentment that is developing in Japan toward the United States when Americans claim that this trade surplus is being achieved by Japan through unfair trade practices.

The gesture of making Alaskan oil available to Japan at this time would not only reduce our trade imbalance but would be a symbolic move on our part to demonstrate America's willingness to take action on the trade issue ourselves, rather than always asking Japan to make politically difficult moves unilaterally. This would be an opportunity for us to take a constructive course in improving our relationship with Japan.

In reviewing our report with senior officials of the U.S. Government in June 1981, our group was told that no decision had been made to seek revised legislation. These officials said that political obstacles stood in the way, relating primarily to the political pressures from maritime unions and shipping interests.

Our group's supplemental report, issued in October 1981, suggested that our Government make a detailed analysis of the savings to be made through an oil swap so that our legislators and the public would at least know the cost of the embargo to our economy and with this knowledge could determine whether any modification in the law should be made.

Since our initial study of this issue in 1980, ships, pipelines and terminals have been built and maritime jobs have been filled to transport the approximately 1.5 million barrels per day coming from Alaska and going to both the west and the east coasts. I believe Congress would find it politically difficult to eliminate these jobs and to change the rules on the investments that have been made in good faith, relying upon current legislation. At least for the time being, I believe we must pay the extra cost of transporting a portion of this oil to the gulf and east coasts.

However, there is a strong possibility, with the extensive exploration going on in Alaska, that additional oil will be discovered. This volume above that now being transported to U.S. refineries should be made available on the international market. While there are several other countries in the Pacific Basin which might be interested in purchasing a portion of this surplus oil, there is little doubt that Japan would be the major buyer if the price for the oil were competitive in the world market. Japan needs diversification to increase its security of supply and to reduce its dependence on oil from the Persian Gulf.

Another major energy product which could be sold to Japan would be that of natural gas now being repressurized in Prudhoe Bay wells. Because of the surplus of gas available in the Lower 48 States at prices one-fifth to one-sixth of the cost of delivering Prudhoe Bay gas to the Midwest or California, it is very unlikely that this gas will be sold in the Lower 48 States in the foreseeable future. If gas should be needed in the Midwest or California at a later date, experts believe there would be plenty for our pipeline as well as for export to Japan.

I do not know if current legislation embargoing Alaskan oil shipments to foreign customers applies to natural gas, but I would heartily recommend that Congress clarify the situation with new legislation to make sure that that gas is available for export. Such an action would free private petroleum companies to seek long-term contracts with foreign buyers.

It is my understanding that Japan has contracted for its gas needs until the year 1990. However, if Alaskan gas is made available for export through legislation, it would probably take until 1990 to build a pipeline, liquefaction plants, and terminals for export of this gas.

You might ask why Japan would be willing to buy this higher priced gas when we would not do so in the lower 48 States. The reason is that energy costs in Japan are much higher than they are in the United States and will probably remain so well into the future. Therefore, we should permit private petroleum companies to explore the possibility of selling Alaskan gas abroad and invite foreign buyers to invest in the required pipeline, liquefaction plants, terminals and ships.

As Japan is the largest user of energy in the Pacific Basin, outside of the United States, she would be the logical country to contract for this gas, make the investments, and provide for a diversified supply to meet her needs in the future. Japan also could sell surplus gas to other countries in East Asia, such as South Korea, which probably would not have sufficient capital for the entire project nor the need for the volume of gas to make the project economically viable.

In summary, I would urge Congress to make available for export oil in surplus above the 1.5 million barrels per day now flowing through the Alaskan pipeline, as well as the Prudhoe Bay gas which is now shut in and will probably remain shut in for some time to come. Japan is the logical buyer for both of these products. Making them available to Japan would enhance our relationship and reduce our trade imbalance with that country. Such a move would also be of great benefit to our economy through taxes imposed by the State of Alaska and the U.S. Government and through the earnings of our oil companies.

Senator MURKOWSKI. Mr. Ambassador, with regard to your suggestion that we export oil in excess of the current throughput of the trans-Alaska pipeline, averaging about 1.5 million barrels a day, do you have a view as to whether or not the market should determine the movement of that oil to the Pacific rim in foreign as opposed to domestic vessels?

Ambassador **Ingersoll.** As a practicing economist, I think it would be of benefit if the oil could move in any form of transportation that would give the lowest cost to the consumer, wherever it went.

I believe perhaps that from the standpoint of legislation it might be easier to specify that that oil should move in American bottoms, but there is a considerable difference in the cost and I think the markets would probably determine whether or not that oil would be used with American transportation or with foreign transportation.

At the present time, there is a question, I believe, whether or not any of the oil would be sold in the international market, depending on the price. And if we had moved earlier I think we could have made some long-term contracts. Now I think it depends upon the pressure on Japan to have diversity of source as well as tieup for a long-term contract.

Senator **Murkowski.** As you know, one-eighth of the oil flowing through the pipeline is royalty oil, equaling about 180,000 barrels a day. Do you feel that that should be excluded or included in your proposed recommendation on the allocation above 1.5 million?

Ambassador **Ingersoll.** Well, our original recommendation was that all the oil ought to be made available in the world market and let it flow where the customers were willing to pay the best prices. I think the royalty oil could flow in the international market, if Congress were willing to release it, and I would certainly recommend so.

But I again point out that the ships have been built and the pipeline across the Panama Canal has been built, and the crews have been filled, and I think there are enormous pressures against changing that position at the present time. But volumes above that, I see no constraints whatsoever, except possibly from the maritime unions that would like to man additional ships that are not now in service.

Senator **Murkowski.** You were Ambassador to Japan, I believe, when the United States imposed its soybean embargo and the U.S. reputation as a reliable supplier at that time was rather tainted by that embargo.

Ambassador **Ingersoll.** It surely was.

Senator **Murkowski.** Do you feel that the ban on Alaska oil exports is a problem of a similar nature? Do you believe that our country basically loses commercial opportunities in Asia and elsewhere when we have situations like this, where we have unilateral export prohibitions?

Ambassador **Ingersoll.** Yes, I certainly do, Mr. Chairman. I suffered through that soybean embargo and even though Japan had adequate supplies of soybeans they did not know how long the embargo was going to last, and we just stimulated the investment, heavy investments, in Brazil for the growing of soybeans, so we lost part of that market.

I find from my Japanese friends today that they cannot understand why Alaskan oil would not be available for their purpose, particularly when it would save us money in this country and save money in Japan as well.

They do not understand it and, as I stated earlier, it would greatly enhance our relation with Japan, would give an indication that we are willing to take some action rather than always asking Japan to take action to resolve the trade imbalance.

Senator **Murkowski**. Mr. Ambassador, there is more than a sympathetic concern for the realities associated with playing under the rules, and in the particular case of the development of the merchant tanker fleet, the domestic U.S.-flag tanker fleet, that was developed under the rules of the Jones Act, which mandated that the oil be carried between U.S. ports in U.S. vessels.

As a consequence, the surplus on the west coast has probably surpassed that expected by most of the experts who were originally forecasting what would happen to Alaskan oil. The question which you have touched on and I would like to pursue with you for a moment is whether we can afford to move oil from Alaska to Japan in U.S.-flag vessels.

It would seem to me that an elementary examination of the realities associated with moving that oil some 4,400 miles from Alaska down to the Panamanian Isthmus and then unloading it, moving across the canal through a pipeline, an 80-mile pipeline, and reloading it on U.S. smaller flag vessels and distributing it throughout the gulf and some of the eastern ports would certainly seem to indicate that you could move it 1,200 miles in U.S. bottoms.

Ambassador **Ingersoll**. It is cheaper, certainly.

Senator **Murkowski**. It would seem to me that since the intention in the law dictated that the oil had to move in U.S. bottoms, that there should be some protection for the amortization of those substantial investments that were made. It is obviously in the national defense interest that we maintain a domestic tanker fleet.

So you would share in my observation that the economics are such that you could economically move oil in U.S. bottoms to the Orient.

Ambassador **Ingersoll**. Yes, you could.

Senator **Murkowski**. And I assume you would share my observation that oil is like water. It finds its own level and either competes or does not compete. Alaska oil is probably the most expensive oil in the world, and not only that, but it is produced in one of the harshest environments and then it has to go and amortize the most expensive project constructed in the history of the free world, that pipeline which was about $8 billion, and it amortizes that.

Ambassador **Ingersoll**. $8 billion.

Senator **Murkowski**. Excuse me, you are absolutely correct, Mr. Ambassador, $8 billion, amortizes that and then wanders about 4,400 miles and is loaded and unloaded, and there are those who say you cannot send it to Japan in a U.S. bottom.

I have a couple more brief questions.

Do you feel that there could be existing opportunities in the Pacific rim basin in the areas of coal marketing? You have already mentioned gas. That would stimulate, theoretically U.S. jobs, which would offset some valid concerns which have been raised on this issue.

Ambassador INGERSOLL. Yes. I did not realize the protectionist cries had been raised on coal because we have such a surplus.

Senator MURKOWSKI. I am talking about the issue of oil exports to Japan.

Ambassador INGERSOLL. No, I think there are opportunities for coal if we can get the transportation costs to the coast solved. Right now those costs are higher than they are from, say, Australia to the coast, and perhaps from China to the coast. So that we are competing with supplies that are more readily available at lower cost.

But certainly if we can resolve and perhaps the railroad companies or slurry pipelines can be built which would enable us to sell the coal to our Pacific rim allies.

Senator MURKOWSKI. My last question—and I am going to pose the question and then briefly recess so that I can go vote and will ask you to consider it in my absence—is the question of whether lifting the oil export ban could be used, in your opinion, as a policy lever with the Japanese to make greater advancements in removing Japanese barriers to U.S. exports.

And with that, I will briefly recess. I should be back in about 7 minutes. I am sorry for my absence, but I cannot help it, Mr. Ambassador.

[A brief recess was taken.]

Senator MURKOWSKI. We will call the hearing back into order. I apologize for the inconvenience associated with the vote.

I would again pose the question whether lifting the oil export ban can be used as a policy lever with the Japanese to make greater progress in removing Japanese barriers to U.S. exports. Mr. Ambassador?

Ambassador INGERSOLL. Mr. Chairman, you left me with a tough question, but I will give you a direct answer.

As a former businessman before I became Ambassador, I negotiated six joint ventures with Japanese companies. I gave advice to any businessman that talked to me while I was Ambassador, and subsequently here in the State Department, that we should negotiate in just as tough a manner as the Japanese do, and they are some of the toughest negotiators in the world, I believe.

So I think we should use all assets at our means to secure more access to Japanese markets to convince them that it is in their best interests to open their markets, because if they do not there is going to be rising protectionism coming in this Western World, Europe and the United States and Canada, that are going to retailiate against Japan for not having an open market.

And I am speaking now of the nontariff barriers, because officially they are as open as any other country from the standpoint of tariffs and quotas, but they have an ability to restrict imports into their country at any time they want without any government regulations.

So I think our negotiators should use the Alaskan oil or any other means—gas from Alaska—to seek greater opening of the Japanese market. Now I might say that we have very able negotiators, and they know now to handle such activities, but at the present time Prime Minister Nakasone has made more of an effort, I believe, to reduce some of those barriers than any other previous Prime Minister.

I think we should encourage what he is doing, help him in that aspect, but do not have him lose his domestic constituency upon which his power depends. So we should use our negotiating ability and any assets we have in a very diplomatic manner.

Senator **MURKOWSKI**. Well, Mr. Ambassador, then you believe that basically this could be used as a lever in the negotiating process with Japan as we address our trade concerns, particularly the significant deficit in our bilateral trade balance?

Ambassador **INGERSOLL**. If the world market permits it. If prices and availability of other energy sources were more desirable for the Japanese, it is going to make it difficult for us to use that lever, but whenever it is available I think we should use it.

I understand the Japanese have contracted for all the natural gas they need through 1990, so it would not pay us to go over and clobber them over the head right now to buy our gas when they do not need it and do not want it. But certainly in the long run it would be in their interest, I believe, to buy gas from us as a diversified source and as a secure source.

That is why I say the negotiators have to use their very good judgement in recognizing the world economic position.

Senator **MURKOWSKI**. As Ambassador to Japan, you undoubtedly observed on numerous occasions the significant impact of an organization called MITI, the Ministry of International Trade and Industry for Japan, which seems to be the single voice dictating the relationship between government and industry in establishing Japanese trade.

In our particular situation, we have several agencies. We have the State Department, the Department of Commerce, the U.S. Trade Representative all involved in setting trade policies. We do not have accountability in one place, as Japan does. As a consequence, it is difficult to speak with one voice when we have two or three agencies involved.

The United States is Japan's largest customer. Why cannot we simply go in and negotiate with Japan on the basis of reminding them that we are the best customer they have? As a consequence we would like them to be our best customers in certain areas—maybe it is gas, maybe it is coal, maybe in this case it is a small amount of oil. Do you think that is an appropriate way to negotiate with the Japanese?

Ambassador **INGERSOLL**. I participated in a session week before last with the Japan-United States Businessmen's Conference, at which this subject was very much in evidence. For the first time I saw recognition by the Japanese that it was in their interest to respond to American manufacturers particularly who wanted to sell goods in Japan, and that even though they had specified Japanese sources in the past, it might be in their interest to at least give American suppliers an opportunity.

I do not believe we can go to the Japanese and ask that they buy something from us that costs more or does not have the similar quality or service. But if we do have price, quality, and service equal to other suppliers, then I think they should lean a little bit our way because they are making great inroads in many of our industries—particularly autos, steel, and machine tools—and if somebody does not buy, in the long run they are not going to be able to sell.

Therefore, I think it is very wise that we do approach the Japanese in that manner.

Senator **Murkowski**. You have indicated in your testimony that, since we have built a maritime fleet to transport the oil down from Alaska both to the west and the east coasts, you feel that it would be difficult politically for Congress to eliminate the jobs and change the rules on the investments that have been made in good faith relying upon current legislation.

I think we basically agree that those have been the rules of the game, but the reality of what is good for the country is something else. You said "politically difficult." I am wondering if your inference is that there is heavy political influence or manipulation on this issue?

Ambassador **Ingersoll**. Except for those interests such as the maritime unions and the investors in ships and pipelines, I cannot understand why there would be any opposition to the sale of Alaskan oil internationally, principally to Japan. I just do not know, except that this law was passed at a time when we had serious difficulties in getting oil imported into the United States and the emotion may still be continuing. But I see no rationality for it.

Senator **Murkowski**. Mr. Ambassador, I very much appreciate your testimony and your responsiveness to the questions. We again thank you for your testimony. We appreciate it very much.

I would like to remind you and all of the other witnesses that the hearing record will remain open for a 2-week period of time if you wish to submit anything further. Thank you, Mr. Ambassador.

Ambassador **Ingersoll**. Thank you very much, Mr. Chairman.

Senator **Murkowski**. Our next witness will be Mr. Robert H. Heller, vice president of international economics, Bank of America, San Francisco, Calif. Mr. Heller, I welcome you to the witness table and note that you have moved closer to Alaska in your recent acquisition of the Seattle First National Bank.

As a former stockholder of the Seattle First National Bank, I wish your offer had been a little higher, but I guess we take what we get around here. With that, I would ask you to proceed with your statement and again welcome you to the committee.

STATEMENT OF H. ROBERT HELLER, VICE PRESIDENT FOR INTERNATIONAL ECONOMICS, BANK OF AMERICA, SAN FRANCISCO, CALIF.

Mr. **Heller**. Thank you very much, Mr. Chairman. I hope we will have an opportunity to do business in Alaska in the not too distant future as well.

Senator **Murkowski**. I hope it is not to come up and look for bad loans.

Mr. **Heller**. As requested by the committee, I will focus on energy trade issues and address the desirability of opening up world markets to U.S. producers of Alaskan oil. I will first consider the unique characteristics of the Pacific rim countries that make them one of the key growth areas of the world and a vital partner for the United States.

Second, I will address the importance of energy resource trade for the prosperity of the region and examine the consequences of freer trade in Alaskan oil both for the United States and our trading partners.

The Pacific rim countries represent a range of economic diversity unequalled in any other region of the world. This applies to population patterns, land, as well as other natural resources. But because the resource endowments in the Pacific region are so different, trade in these resources is also highly significant.

To cite but one example, imports of raw materials, fuels, and food account for over 75 percent of Japan's imports. In contrast, these basic commodities amount to only approximately 40 percent of imports in the United States, Germany, and France.

U.S. export patterns to the Pacific basin countries reflect their great dependence upon raw materials. The leading U.S. export commodity to China, India, and Indonesia is wheat, to Japan it is corn, to Korea it is cotton, to Taiwan oil seeds, to Malaysia and Thailand basic chemicals.

A high degree of specialization is, therefore, forced upon these countries and without international trade the Pacific countries would experience a drastic reduction in their living standards because almost none of them are self-sufficient. Clearly, the United States, with its well-diversified resource base and economic structure, is an exception to this general observation. But if we were to focus on those American States that are quintessentially Pacific; namely, Alaska and Hawaii, the same observations would again hold true.

International trade is essential for the maintenance of the existing living standards in the Pacific area and offers the prospect of further economic growth. The significance of international trade to economic growth is illustrated by the fact that open trade-oriented economies grow much faster than relatively closed economies.

The average growth rate of those Pacific countries with a foreign trade sector that is greater than one-quarter of their GNP averaged about 7.6 percent during the last decade. In contrast, countries with a foreign trade sector smaller than 25 percent of GNP averaged only 3.5 percent of growth per year. That is, the trade-oriented economies grew at about twice the rate of the more closed economies.

It is sometimes argued that national security considerations should outweigh or at least partially offset free trade considerations. I believe that this is a dangerous misconception, because the military strength of the United States is critically dependent upon access to commodities produced abroad, including the Pacific basin countries.

A very high share of the world production of those critical commodities included in the U.S. national defense stockpile of strategic materials is taking place in the Pacific basin, and this makes it abundantly clear that our own strategic needs are best served by a posture of free trade and not by isolationism.

Let me focus now more narrowly on the energy trade issues and address the desirability of lifting the current restrictions on Alaskan oil exports. The Pacific rim countries vary greatly as far as their energy endowments are concerned.

The proven oil reserves of the region amount to some 39 billion barrels of crude oil. About half of that amount, 20 billion barrels, is located in China. Another quarter, or 10 billion, is located in Indonesia. This leaves a rather insignificant amount of about 9 billion for all the other countries of the Pacific rim, excluding the Americas. It is noteworthy that the countries almost completely devoid of any petroleum resources include the rapidly growing nations of Japan, Korea, Taiwan, Hong Kong and Singapore.

In total, the Pacific rim countries have to import about half of their petroleum requirements from outside the area. Considering the vital importance of these energy supplies for the region, the availability of secure supplies is of both economic and strategic significance. Diversification of supply sources is one technique that has been utilized to minimize the risk of supply disruption by many of these countries.

Since the first oil shock, Japan has added several countries, such as Algeria, Iraq, Oatar, and Mexico to the list of supplier countries. Also, Saudi Arabia has replaced Iran as Japan's leading supplier of oil. While the U.S. imports significant amounts of crude and refined petroleum products, she also exports some of these products.

Canada and the Caribbean are key destinations of U.S. crude oil exports. More significant are U.S. exports of refined products to a wide variety of countries, but none of these petroleum exports are Alaska crude oil because several laws effectively prohibit the exportation of Alaskan crude.

The problems raised by restricting the sale of Alaskan crude to domestic markets are well known. Only half of the 1.6 million barrels per day produced by the Alaskan fields can be absorbed by west coast refineries, and the other half is shipped to the U.S. gulf coast, mostly through the Panama Canal, but some of it even around Cape Horn.

Let me now address the key effects of permitting Alaskan oil exports. First, economic efficiency. Shipping costs vary substantially between the alternative destinations of Alaskan crude. The current cost of shipping Alaskan crude to the gulf coast is approximately $5 per barrel, the cost of shipment to the west coast $1.50, and the cost of shipment to Japan is approximately 60 cents if foreign-flag vessels are used, and $1 for U.S. vessels.

The total savings that can be attained by selling Alaskan crude to customers in the Pacific Basin countries are substantial. Clearly, the savings depend upon the amount of oil to be shipped. If only 200,000 barrels of Alaskan crude are exported every day, the savings in transportation costs alone will amount to about $300 million per year. If all of the crude oil currently shipped to the gulf coast is exported instead, the transportation savings will amount to about $1.2 billion per year.

Second, production incentives. As you know, the price of oil is set in the world market and lower transportation costs incurred by producers of Alaskan oil will, therefore, result in higher wellhead revenues. There will be a net increase in the price received, and consequently there will be an incentive to increase production by drilling more marginal wells and by using more advanced secondary recovery methods. Therefore, total oil production will increase.

Third, government revenues. A higher wellhead price and the potential expansion of the production volume will also increase tax revenues both for the Federal Government and for the State of Alaska. Very rough calculations show that the State of Alaska will gain between $70 and $200 million per year in additional revenues, depending on the volume of oil exported, and the Federal Government will gain between $175 and $700 million per year in additional revenues.

Fourth, the export of Alaskan oil to Japan will improve the bilateral trade balance between the United States and Japan by approximately $1 billion for each 100,000 barrels of oil shipped per day. That is, the bilateral trade balance between the United States and Japan will improve by somewhere between $2 and $8 billion. This will go a long way toward reducing the $20 billion trade imbalance which is the subject of so much adversity these days.

At the same time, the balance of payments of Mexico with the United States would improve by approximately the same amount if we choose to purchase the geographically closest oil to replace the Alaskan shipments. In view of Mexico's current international payments difficulties, that would be desirable as well.

Fifth, it is impossible to cover all the national security ramifications in the brief space allotted. Suffice it to say that the security interests of the Western alliance would be enhanced by the exportation of Alaskan oil as our key allies would be able to rely increasingly upon U.S. sources of supply and would, therefore, be less dependent upon volatile Middle Eastern sources.

By treaty, the United States is already obligated to share its oil resources in times of international crisis with its allies. To refuse to do so in more tranquil time for national security reasons would not make much sense at all. Furthermore, the vulnerability of our current Alaskan oil supply lines from Alaska through the Panama Canal and the entire Caribbean Basin to Texas is certainly greater than the alternative of a direct shipment from Mexico to Texas.

However, there is one group that would be harmed by the exportation of Alaskan oil, the U.S. maritime industry, which would lose its current captive customer. To the extent that the elimination of implicit subsidies contributes to greater economic efficiency, this is in the long-term interests of both American producers and consumers.

The immediate adverse consequences for the U.S. maritime industry can be mitigated by provisions that would call for the shipment of Alaskan oil to foreign ports in U.S. vessels for a limited time period. This transition period would allow for the gradual phasing out of the vessels and sailors currently employed in the U.S. oil trade.

From the evidence presented, I would conclude that the lifting of the oil ban on Alaska crude will enhance the global efficiency of resource allocation; it will further the growth prospects of the United States and its trading partners in the Pacific, enhance Government revenues in this country, improve global balance of payments patterns, and also contribute to the security interests of the Western nations.

Eliminating the unreasonable restrictions against U.S. oil exports will also affirm leadership of the United States in the fight against protectionism and winning that battle is crucial for the restoration of global growth and prosperity.

Thank you very much, Mr. Chairman.

[Mr. Heller's prepared statement follows:]

Prepared Statement of H. Robert Heller

U.S. ENERGY TRADE POLICY IN THE PACIFIC RIM

Thank you very much, Mr. Chairman.

It is a great pleasure to appear before this committee to testify regarding U.S. trade relations with our neighboring countries in the Pacific region.

As requested by the committee, I will focus on energy trade issues and address the desirability of opening up world markets to U.S. producers of Alaskan oil. I will first consider the unique characteristics of the Pacific rim countries that make them one of the key growth areas of the world and vital trading partner for the United States. Second, I will address the importance of energy resource trade for the prosperity of the region and examine the consequences of freer trade in Alaskan oil both for the United States and our trading partners.

1. THE PACIFIC REGION: A KEY TRADING PARTNER FOR THE UNITED STATES

The Pacific rim countries represent a range of economic diversity unequaled by any other region in the world. The region encompasses about one-third of the globe and one-fourth of the world's population. The nations bordering the Pacific include the most populous country in the world, China, and some of the least populous nations, such as Brunei, Macao, Fiji, and Tonga. The Pacific Ocean is surrounded by some of the largest countries in the world, such as China, Canada, Australia, and the United States. Even the Soviet Union borders the Pacific. But the region also includes some of the smallest island states in the world. Along the Pacific rim, we find some of the most densely populated countries, such as Hong Kong and Singapore, as well as countries with very low population densities, like Canada and Australia.

It is therefore not surprising that some of the most powerful nations on earth border the Pacific, along with some of the least significant states. One of the world's richest countries, the United States, is part of the region, as are some of the world's poorest countries, such as Laos and Cambodia.

If one were to contrast the Pacific and Atlantic regions, one would have to say that the Pacific nations are characterized by diversity, while the Atlantic regions are much more homogeneious. Atlantic nations, such as France, Germany, and the United Kingdom have rather similar population and resource endowments. Al possess basic raw materials and agricultural capacities, and offer comparable living conditions.

Because the resource endowments in the Pacific area are so different, trade in these resources is also highly significant. To cite but one example: imports of raw materials, fuels, and food account for over 75 percent of Japan's imports. In contrast, these basic commodities account for only 41 percent of U.S. imports, 43 percent of French imports, and 41 percent of German imports. The dependence of Japan upon external sources of basic commodities is therefore evident. Similar observations can be made with respect to Korea, Hong Kong, and Singapore.

These distinctions in resource endowments have important economic implications: the nations of Western Europe have virtually the same raw material base and are largely self-sufficient in key raw materials. Consequently, these nations have the capacity to produce virtually the same output mix. Their products are therefore competitive with each other.

In contrast, the Pacific rim countries are complementary as far as their resource endowments are concerned. Without raw material trade, their living standards would be drastically curtailed.

U.S. exports to the Pacific basin countries reflect their great dependence upon raw materials. Table 1 shows that with the exception of aircraft exports to Australia and New Zealand as well as machine exports to Hong Kong and Singapore, foods and chemicals are the key U.S. exports to the Pacific region. The leading U.S. export commodity to China, India, and Indonesia is wheat, to Japan it is corn, to

Korea it is cotton, to Taiwan oil seeds and oil nuts, and to Malaysia and Thailand it is chemicals. All of them are basic raw materials.

A high degree of specialization is therefore forced upon these countries. Without international trade, the Pacific countries would experience a drastic reduction their living standards because almost none of them are self-sufficient. Clearly, the United States with its well diversified resource base and economic structure is an exception to this observation. But if we were to focus on those American states that are quintessentially Pacific, namely Alaska and Hawaii, the same observations would hold true.

International trade in resources and products is essential for the maintenance of the existing living standards in the Pacific area and offers the prospect of further economic growth. The significance of international trade to economic growth is illustrated by table 2. The table shows the importance of international trade as measured by the ratio of exports to GDP and relates it to the real economic growth rate experienced during the last decade (1974-83). As is evident from the table, the open, trade oriented economies grew considerably faster than the relatively closed economies. The average growth rate of those countries with a foreign trade sector equal to or greater than one quarter of their GDP averaged 7.6 percent. In contrast, countries with a foreign trade sector smaller than 25 percent of GDP averaged only 3.6 percent growth per year. That is, the trade-oriented countries of the Pacific rim grew on average twice as fast as the less highly trade-oriented nations.

During the last decade (1974-83), the Pacific rim countries have experienced the highest growth rates of any region in the world—and I am including here the oil rich countries of the Middle East. This was the decade during which the Pacific nations became increasingly trade oriented.

This experience is not unique. Europe had a similar experience in the late 1950's and during the 1960's. During that period tariffs and other trade restrictions were reduced or eliminated within Europe and the ensuing trade boom and increased competition raised living standards sharply.

It is sometimes argued that national security considerations should outweigh or at least partially offset free trade considerations. I believe that this is a dangerous misconception. The military strength of the United States is critically dependent upon access to commodities produced abroad, including the Pacific basin countries. Table 3 shows the share of the Pacific countries in the world production of those critical materials included in the U.S. national defense stockpile of strategic materials. This listing makes it abundantly clear that U.S. defense needs are best served by a posture of free trade and not by isolationism.

Free international trade conveys great economic benefits upon all partner countries in that exchange. It also contributes to the vital strategic and defense needs of our Nation. International trade is not a zero-sum game where one party gains at the expense of the other party. Instead, all partner countries are able to improve their standard of living.

2. THE IMPORTANCE OF ENERGY TRADE FOR THE PACIFIC BASIN

The Pacific rim countries vary greatly as far as their energy endowments are concerned. The proven crude oil reserves of the region amount to some 39 billion barrels of crude oil. Half of that amount, 20 billion barrels, is located in China. Another quarter, or 10 billion barrels, is located in Indonesia. This leaves a rather insignificant amount of about 9 billion barrels for all other countries of the Pacific rim—excluding the Americas. It is noteworthy that the countries almost completely devoid of any petroleum resources include the rapidly growing nations of Japan, Korea, Taiwan, Hong Kong, and Singapore as detailed in table 4.

Reflecting these uneven distributions of fuel resources, we find that Indonesia is a major exporter of crude oil, and Brunei, China, and Malaysia export moderate amounts. Singapore, which has no petroleum reserves of its own, is a major refinery center, and a significant exporter of refined petroleum products as shown in Table 5.

Japan is a leading importer of both crude and refined petroleum products. Korea, Taiwan, and all South East Asian countries are also significant importers of petroleum. In total, the Pacific rim countries have to import about half of their petroleum requirements from outside the area.

Considering the vital importance of these energy supplies for the region, the availability of secure supplies is of both economic and strategic significance. Diversification of supply sources is one technique that can be utilized to minimize the risk of supply disruption. Table 6 shows Japan's crude oil import patterns for September 1973, just before the first oil crisis, and for January 1983. Several countries, such as

Algeria, Iraq, Qatar, and Mexico have been added to the list of suppliers, thereby contributing to the diversification of Japan's energy resources. Also, Saudi Arabia has replaced Iran as Japan's leading supplier as Iran's reliability as a supplier deteriorated.

While the United States imports significant amounts of crude and refined petroleum, she also exports some of these products. Canada and the Caribbean are the key destinations for U.S. crude oil exports, totaling some 80 million barrels in 1981. More significant are U.S. exports of refined products of 150 million barrels per year to a wide variety of countries, including Japan and many other Pacific countries. In total, the United States exports well over 200 million barrels of petroleum per year.

None of these petroleum exports are Alaskan crude oil, because several laws effectively prohibit the exportation of Alaskan crude. Most prominent among these laws are the Export Administration Act of 1969 and the Trans Alaska Pipeline Systems Authorization Act of 1973.

The problems raised by restricting the sale of Alaskan crude to domestic markets are well known. Only half of the 1.6 million barrels per day produced by the Alaskan fields can be absorbed by west coast refineries. The other half is shipped to U.S. gulf coast refineries—mostly through the Panama Canal, but some of it even around Cape Horn.

Permitting the export of Alaskan crude oil would have considerable benefits and only minor disadvantages. The various effects may be summarized under the categories of economic efficiency due to cost saving, increased production incentives, governmental revenue enhancements, balance of payments effects, and security considerations. Losses would be incurred by the U.S. maritime industry due to the loss of now protected markets.

a. Economic efficiency

Shipping costs very substantially between the alternative destinations of Alaskan crude. The current cost of shipping Alaskan crude to the Gulf Coast is approximately $5 per barrel, the cost of shipment to the West Coast is about $1.50, and the cost of shipment to Japan is approximately 60 cents if foreign flag vessels are used and $1 if U.S. vessels are used.

These cost differentials are due to a variety of factors: distance, transit time, and vessel cost. The distance between the Alaskan port of Valdez and the gulf coast port of Galveston is approximately 6,500 miles if the Panama Canal is utilized. This contrasts with only 3,500 miles between the port of Valdez and Yokohama, Japan. In addition, there are substantial differences in shipping charges between U.S. vessels which have to be utilized for transport between U.S. ports due to the restrictive nature of the Jones Act, and foreign flag carriers which benefit from lower construction and crew costs.

The total savings that can be attained by selling Alaskan crude to customers in the Pacific basin countries are substantial. Clearly, the savings depend upon the amount of oil to be shipped. If only 200,000 barrels of Alaskan crude are exported every day, the savings in transportation costs will amount to about $300 million per year. If all the oil currently shipped to the gulf coast is exported, transportation cost savings will amount to about $1.2 billion per year.

b. Production incentives

The price for oil is set in the world market. Lower transportation costs incurred by producers of Alaskan oil will therefore result in higher revenues received at the well head. Clearly, not all the savings in transportation costs will accrue to the producers, because they will also have to pay taxes on the increased revenue. Nevertheless, there will be a net increase in the price received, and therefore there will be an incentive to increase production by drilling more marginal wells and by using more advanced secondary recovery methods. By increasing the incentives to producers to expand the volume of liftings, governmental revenues will be increased as well.

c. Government revenues

The higher wellhead price and the potential expansion of the production volume will increase tax revenues both for the Federal Government and for the State of Alaska. Rough calculations show that the State of Alaska will gain between $70 million and $280 million per year in additional revenues (depending on the volume of exports, i.e. 200,000 b/d versus 800,000 b/d). The Federal Government will gain between $175 million and $700 million per year in additional tax revenues.

d. *Balance of payments effects*

The export of Alaskan oil to Japan will improve the bilateral trade balance between the United States and Japan by approximately $1 billion for each 100,000 barrels of oil exported per day. That is, using our lower and upper bounds of 200,000 b/d and 800,000 b/d in oil exports per day, the bilateral trade balance between the United States and Japan will improve by $2 billion to $8 billion. This improvement will go a long way toward reducing the $20 billion trade imbalance, which is the subject of so much adversity these days.

At the same time, the balance of payments of Mexico with the United States will improve by approximately the same amount if we choose to purchase the geographically close Mexican oil to replace the Alaskan oil shipments no longer reaching the gulf coast—Mexican export capacity permitting. In view of Mexico's current international payments difficulties, this would be desirable as well.

Of course, the overall U.S. balance of payments will not be affected as the additional revenues from oil exports to Japan and other Pacific rim nations will be counterbalanced by additional expenditures for oil imports from Mexico and other nations.

e. *Security considerations*

It is impossible to cover all national security ramifications in the brief space allotted, and it as my understanding that this topic will be addressed in greater detail by other witnesses. Suffice it to say that the security interests of the Western Alliance would be enhanced by the exportation of Alaskan oil as our key allies would be able to rely increasingly upon U.S. sources of supply and would therefore be less dependent upon volatile Middle Eastern sources.

By treaty, the United States is already obligated to share its oil resources in times of international crisis with its allies. That is, in times of crisis we are obligated to ship our oil to Japan, Korea, and other allies. To refuse to do so in tranquil times for national security reasons would not make much sense at all.

Furthermore, the vulnerability of our current Alaskan oil supply lines from Alaska through the Panama Canal and the entire Carribbean basin to Texas is certainly greater than the alternative of a direct shipment from Mexico to Texas. If vulnerability to naval disruptions is the governing factor, a pipeline between Mexico and Texas could alleviate these fears as well.

In short, the national security arguments against the exportation of Alaskan oil are only partially valid. Considered in a broader framework and taking into account the full picture, they are no longer convincing.

There is one group that would be harmed by the exportation of Alaskan oil: the U.S. maritime industry, which would loose its current captive customer. To the extent that the elimination of implicit subsidies contributes to greater economic efficiency, this is in the long-term interests of American producers and consumers. The immediate adverse consequences for the U.S. maritime industry can be mitigated by provisions that call for the shipment of Alaskan oil to foreign ports in U.S. vessels for a limited time period. This transition period would allow for the gradual phasing out of the vessels and sailors currently employed in the domestic U.S. oil trade.

3. CONCLUSION

From the evidence examined I conclude that the lifting of the oil export ban on Alaskan crude will enhance the global efficiency of resource allocation, further the growth prospects of the United States and its trading partners in the Pacific basin, enhance governmental revenues generated in this country, improve global balance of payments patterns, and contribute to the security interests of the Western nations.

Eliminating the unreasonable restriction against U.S. oil exports will also affirm the leadership of the United States in the fight against protectionism. Winning that battle is crucial for the restoration of global growth and prosperity.

TABLE 1.—*U.S. Exports to Pacific Basin countries by commodity: 1981*

Country and commodity:	*Millions*
Australia—Aircraft	$568.6
China—Wheat	1,268.9
Hong Kong—Office machines	252.2
India—Wheat	239.8
Indonesia—Wheat	129.6
Japan—Corn	1,792.0
Korea—Cotton	489.5

Malaysia—Chemicals	553.6
New Zealand—Aircraft	261.5
Philippines—Chemicals	333.3
Singapore—Machines	457.7
Taiwan—Oil seeds and nuts	315.3
Thailand—Chemicals	193.6

Source: Bank of America database.

TABLE 2.—INTERNATIONAL TRADE AND ECONOMIC GROWTH

[Averages 1974–83]

County	Ratio of exports to GDP	Average growth rate
Singapore	1.26	7.6
Hong Kong	.83	8.5
Malaysia	.55	6.8
Taiwan	.48	7.2
Korea	.28	7.2
Indonesia	.25	6.5
Average	.61	7.3
Canada	.23	2.3
Fiji	.23	3.1
New Zealand	.21	0.9
Thailand	.18	6.6
Philippines	.15	5.2
Australia	.14	2.2
Japan	.12	3.7
United States	.10	2.3
China	.07	5.1
Laos	.03	2.2
Average	.15	3.6

Source: Bank of America database.

TABLE 3.—*Pacific Basin share of 1981 world production of commodities in U.S. national defense stockpile of strategic and critical materials*

Commodity and uses:	*Percent*
Thorium/monazite—Metal alloys, aerospace	92.0
Tin—Cans, electrical equipment	62.0
Iodine—Medicine, agriculture	61.6
Tungsten—Industrial tools, aerospace	45.6
Graphite—Electric motors, lubricants	45.3
Talc—Electronic insulators	44.5
Titanium—Metal alloys, aerospace	40.1
Bauxite—Metal alloys, aerospace	36.1
Tantalum—Industrial tools, aerospace	34.3
Alumina—Metal alloys, aerospace	30.1
Bismuth—Pharmaceuticals, lead alloys	29.2
Antimony—Metal alloys, auto equipment	22.6
Nickel—Metal alloys, aerospace	21.2
Cadmium—Electroplating, auto and aircraft parts	20.6
Manganese—Metal alloys, chemicals	19.5
Lead—Transportation equipment, gas additives	19.4
Zinc—Auto parts, appliances	17.2
Fluorspar—Metal alloys, aviation gas	15.3
Mica—Insulators, electronic equipment	14.4
Vanadium—Metal alloys, aerospace	14.1
Aluminum—Metal alloys, aerospace	12.7
Silver—Photographic materials	12.7
Copper—Communications, electronics	12.6
Mercury—Industrial control instruments	9.7

Cobalt, mine output—Metal alloys, transportation equipment	8.6
Chromite—Metal alloys, chemicals	8.5
Cobalt, metal—Metal alloys, transportation equipment	8.5
Asbestos—Insulation	8.3
Molybdenum—Metal, alloys, submarines	2.3
Columbium—Industrial tools, aerospace	0.7
Platinum—Chemicals	0.6
Diamond—Industrial tools, aerospace	0.5
Beryl—Metal alloys, aerospace	0.0

TABLE 4.—*World crude oil reserves: 1982*

Country or region:	*Billions of barrels*
Central and South America	28.1
Western Europe	24.8
Eastern Europe	66.0
Middle East	362.6
Africa	56.2
Canada	7.3
Mexico	57.0
United States	29.4
Australia	1.7
Brunei	1.6
China	19.9
Indonesia	9.8
Japan	(1)
Korea	(1)
Malaysia	2.8
World total	670.3

[1] Negligible.

Source: Department of Energy, "1981 International Energy Annual," September 1982.

TABLE 5.—PACIFIC BASIN PETROLEUM PRODUCTION AND TRADE: 1980

[Thousands of barrels per day]

Country	Primary supply			Disposition			
	Crude oil production	Crude oil imports	Refined petroleum product imports	Crude oil exports	Refined petroleum Product exports	Apparent consumption including bunkers	Bunkers
Australia	440	183	74	2	84	594	41
Brunei	270	0	1	240	0	4	0
China	2,114	0	3	280	48	1,834	0
Hong Kong	0	0	128	0	4	124	27
India	182	325	138	0	2	643	3
Indonesia	1,647	89	182	1,237	135	408	6
Japan	11	4,414	683	0	12	4,960	183
Korea, South	0	499	38	0	0	537	4
Malaysia	283	74	34	227	6	134	4
New Zealand	8	55	27	0	0	91	11
Pakistan	10	79	33	0	18	94	7
Philippines	15	179	40	1	2	225	3
Singapore	0	713	72	2	567	218	80
Taiwan	7	364	63	0	18	415	10
Thailand	0	169	66	0	0	224	3
Other	30	132	133	1	24	261	39
Pacific total	5,017	7,274	1,716	1,990	920	10,766	420
World total	63,843	31,249	8,316	30,685	8,725	63,033	2,271

Source: Department of Energy, "1981 International Energy Annual," September 1982.

TABLE 6.—CRUDE OIL IMPORTS BY JAPAN

Exporter country	Thousand barrels per day		Percent of total	
	September 1973	January 1983	September 1973	January 1983
Algeria	0	22	0	0.6
Iraq	0	76	0	1.9
Kuwait	488	23	10.0	0.6
Libya	31	0	0.6	0
Qatar	0	158	0	4.0
Saudi Arabia	1,148	1,345	23.5	33.9
United Arab Emirates	511	723	10.5	18.2
Indonesia	638	588	13.1	14.8
Iran	1,554	334	31.9	8.4
Nigeria	101	0	2.1	0
Venezuela	7	23	0.1	0.6
Mexico	0	206	0	5.2
Other	400	475	8.2	12.0
Total	4,878	3,973	100.0	100.0

Source: CIA, "International Energy Statistical Review," April 1983.

Draft Remarks—Korea-U.S. Economic Council With American, British, and German Chambers of Commerce, Seoul, Korea—August 9, 1983

Mr. Chairman, Ambassador Walker, members of the Korea-U.S. Economic Council and the American, British, and German Chambers of Commerce in Korea, colleagues, and friends . . . thank you.

I've been told that August isn't the best of all possible months to visit Seoul, the weather and the traffic being what they are. But if you happen to be one of those people who admire achievement and who are curious about who the achievers are and how they do it, then any month is a good month to visit Seoul. You here in Seoul and in Korea are managing a remarkable economic advance. The world is watching closely. In many countries, they watch with apprehension. Korea is a formidable competitor. All watch, however, with admiration. For you are demonstrating what can be achieved when determination, and skill, and hard work, and sacrifice are applied in appropriate mixture to a country's opportunities.

I am sincerely pleased to be here, to be among so many who have played, and are playing, so vital a role in this achievement. And I am delighted that Bank of America can be a part of it. A little over 5 months ago we were selected by the government to help create the new joint venture commercial bank, the KorAm Bank. We expect and intend the new bank to be a major and positive contributor to the Korean financial services industry and my colleagues and I here, and throughout the world, are very much looking forward to working with you in helping fulfill the Korean potential.

We have a great deal of work to do, gentlemen, in that regard. Here, in this country and in the countries of the world. For unless we somehow devise a way to help all countries reach their potential . . . help all countries prosper . . . none, in the end, will prosper.

You invited me to talk about protectionism. I am happy to do so because I believe that it is an insidious practice that threatens our personal freedom to make decisions, it curtails the market opportunities of our enterprises, and it leads to divisiveness and antagonism between nations.

Let me begin by stating the reasons why I believe that free trade is of vital importance for the economic health of the Pacific Basin countries. I will then enumerate some of the causes for our current protectionist pressures. Finally, I would like to share with you some of my thoughts on why I believe that this is the right time to stem the tide of protectionism and to return to a freer trading system—for the benefit of the world economy.

In my own travels I have found that the nations bordering the Pacific ocean represent a range of diversity and contrast unequaled anywhere else in the world.

Traveling along the Pacific rim you find China, the most populous nation in the world, and some of the most densely populated areas, like Hong Kong and Singapore. But you also encounter the vast, empty spaces of Australia and Canada.

Every imaginable contrast exists along the Pacific rim. The region encompasses tropical islands as well as the frigid vastness of Alaska. It includes established industrial powers, such as the United States and Japan, and rapidly advancing countries, like Korea and Taiwan. But you can also find some of the least developed regions in the world in the jungles of Papua New Guinea and the poverty of Laos and Cambodia.

There are resource-rich countries and resource-poor nations. Some, like Mexico and Indonesia have large oil reserves. Others, including Korea and Taiwan, are almost totally devoid of petroleum reserves.

What I find fascinating is that these differences in resource endowments have not hampered economic development, but seem to have spurred it on. During the last decade, the Pacific rim countries have outperformed every other region in the world as far as economic growth is concerned—and I include the oil-rich countries of the Middle East in this comparison.

I believe that the key to this astounding accomplishment is found in the trade orientation of the region. Only by exchanging the resources that form the basis for the production process are the Pacific rim countries able to achieve the high living standards that they have attained.

To cite but one example, Korea imports about 65 percent of its basic requirements, such as raw materials, foods, and fuels. Her fundamental dependence upon external sources of basic supplies is therefore evident. Similar observations can be made with respect to Japan, Taiwan, Hong Kong, and Singapore. Yet, all of these countries were able to prosper by achieving extremely high growth rates during the last decade.

Recently, our economists made a detailed comparison of the growth performance of the various nations in the Pacific region. They found that the open, trade-oriented economies grew considerably faster than the nations that were not as trade oriented. To be specific, during the last decade (1974–83), the average growth rate of those Pacific rim countries with a foreign trade sector greater than one-fourth of GNP was equal to 7.6 percent. In contrast, countries with a foreign trade sector smaller than 25 percent of GNP averaged only 3.6 percent growth per year. That is, the trade-oriented nations of the Pacific region grew on average twice as fast as the less highly trade-oriented countries.

The vital importance of international trade for my own country, the United States, is also abundantly clear. Over 40 percent of our agricultural sales are now abroad; one-sixth of all manufacturing jobs are export related; and fully 80 percent of all new manufacturing jobs created in the U.S. during the last expansion (1977–80) were in export industries.

I am citing these statistics with a considerable amount of self-interest as well. The expanding volume of trade has allowed Bank of America to prosper along with our customers by providing trade financing, letters of credit, foreign exchange, and other trade-related financial services.

But more important than that, the vitality of the international sector has spurred the growth of the entire world economy. During the two and a half decades from 1948 to 1973, international trade growth outpaced the overall global growth rate by more than 50 percent. In many ways, trade growth provided the leading edge to this unprecedented expansion in economic activity that brought improved standards of living to virtually all corners of the world and prosperity to those that worked the hardest.

Now, protectionism threatens these gains.

The reasons for the emergence of protectionism are many and varied: the world economy just experienced the most serious recession since the 1930's. We all know that during economic downturns protectionist forces tend to gather strength. The recession impacted virtually all countries and industries, and therefore set into motion protectionist tendencies of global proportions.

Unemployment in most industrialized countries reached double-digit levels, and pressures on governments to preserve the remaining jobs became intense.

Large international wage rate differentials intensified competitive pressures.

In industry, excess capacities were and still are large. The situation reached catastrophic proportions in certain key sectors, such as steel, where almost half of the installed capacity was standing idle.

At the same time, new industrial processes—especially in the plastics and electronics field—made traditional materials and production processes obsolete, thereby intensifying the competitive pressures.

During the last few years we were sometimes faced with the unique specter of the same industry in all countries clamoring for protection. But as each nation attempted to protect its domestic markets, international export competition in the remaining free market segments intensified more and more.

Last, but not least, sharp exchange rate fluctuations caused by unprecedented balance of payments imbalances distorted international price relationships, increased risk, and caused greater uncertainty. Carefully laid sales and profit plans were often invalidated by these disturbances, and long-range production and investment planning was made much more difficult.

As a result, more than 50 percent of world trade is now "managed"—according to a recent estimate by the Conference Board.

The list of protected industries is led by agriculture, which has never been totally liberalized in most countries. Textiles and clothing are protected in many countries against foreign competition by orderly marketing agreements. Steel trade is restricted by a variety of quotas and countervailing duty assessments. Shipbuilding is heavily subsidized in most industrial nations. Trade in automobiles and motorcycles is severely constrained by formal and informal quotas. Many services, such as transportation, communication, insurance, and banking are regulated or protected against foreign competition in numerous countries.

But the worst is not behind us. In the United States, more than 30 new legislative proposals were introduced in the 97th Congress urging Government action to enforce reciprocity by retaliating against foreign trade barriers and subsidies.

The U.S. Government is warning Japan that it will institute formal countervailing duty proceedings unless Japan ceases its practice of favoring certain industries with low-interest loans and special immunities from antitrust constraints.

Some $2.7 billion is being sought from the Congress as a standby fund to match export financing provided by foreign governments.

U.S. autoworkers have an active "Buy American" program and the steelworkers are taking out full page advertisements asking American consumers to protect American jobs by buying American products.

All over the world, the multilateral GATT system which has served the world economy so well in the post World War II period is being severely challenged. It is little surprise that the November 1982 GATT ministerial conference did not make any substantial progress towards a restoration of free trade.

Instead, the world economy has begun to fragment and international trade relations are deteriorating. Bilateral trade arrangements, dominated by political considerations, are about to impart a new rigidity to international trade relations.

Considering these developments, it is not surprising that the global trade volume has not grown at all since 1979.

We are about to kill and eat the goose that lays the golden eggs. This we must not allow to happen.

But unless we take positive action now, there is little hope that international trade will continue to play its central role in stimulating economic growth worldwide.

There never is a perfect time to eliminate trade restrictions, but the present time is as good as any.

The U.S. economy is again on the upswing. The second quarter of this year saw exceptional growth of 8.7 percent. For the rest of this year and 1984, growth should be around 5 percent. All that growth is due to domestic economic improvements, with the American consumer leading the way.

As a consequence of that rapid economic growth, imports are growing sharply, and the U.S. trade deficit is increasing rapidly. This year alone, the trade deficit will be about $70 billion—an amount just about equal to the entire national product of Korea. Next year, the excess of imports over exports is expected to be even larger. By this, the United States is providing an enormous market for foreign products and a powerful stimulus to the world economy.

Americans are basically free-trade oriented. A recent Harris poll of U.S. consumers showed that 89 percent of the people surveyed thought that the United States must make better products and produce them more efficiently if we are to compete in international markets, rather than depend on trade barriers and tariffs. Over 81 percent believed that many foreign products are very good and that American consumers should have a chance to buy them at reasonable prices.

However, there is a limit to the idealism of the American consumers. Clearly, we cannot go it alone. Gone are the days when the American economy dominated the world. In the early 1950's, the U.S. economy accounted for half of the world's GNP. Now the U.S. share is merely 25 percent.

We need partners overseas in the call for free trade and against protectionism. For countries like Korea the maintenance of a free trading system is of vital importance. Yet, the voices of many organizations allegedly representing the interests of the developing countries are not being heard in favor of free trade.

As the world economy emerges from the current recessionary phase, it is important that narrow trade restrictions are cast aside. Inflation will surge again rapidly if markets and relative prices cannot respond in an elastic fashion to the increase in aggregate demand.

I said earlier that the current U.S. recovery is consumer-led. That is to say that investment is still very weak. One reason for that weakness is that many foreign markets are closed off by arbitrary barriers. The reduced export prospects make businessmen reluctant to invest. If the current recovery is to be underpinned by a strong business expansion, it is vital that international markets are open.

Furthermore, protectionist barriers to trade will misdirect scarce new investment funds into protected industries, thereby misallocating resources and weakening the global recovery.

It is never easy to eliminate artificial barriers to competition. The industries affected will inevitably experience a certain amount of pain.

I am speaking from experience.

As you know, the American banking industry experienced a considerable amount of deregulation in recent years. That action imposed significant short-term costs upon American banks—particularly in the form of higher interest rates to be paid on customer deposits. But viewed from a long-term perspective, I believe that deregulation will make the American banking industry stronger and better prepare to compete against other financial intermediaries. In the absence of deregulation, the American banking industry would have wilted behind its protectionist barriers. I believe that the same is true for industry.

Here in Korea you have taken significant steps in the liberalization of the banking system and the international trade sector. I believe it is important to continue on that road to preserve the vigor of the Korean economy. Inevitably, trade is a two-way street and it is important for you to persevere in your efforts. Together, we can make a difference.

Mr. Ambassador, ladies and gentlemen. Bank of America is committed to a liberal international trade system and improved relations among free nations. We believe that this is not only the best way, but the only way to stimulate growth and prosperity for all.

I hope that you will join me and my colleagues in the effort to turn the tide against protectionism. Together, we can make a difference.

Senator **Murkowski**. Thank you very much, Mr. Heller. You made the point that a transition period could be considered to allow for the phaseout of the vessels and the amortization of the investment and so forth. Why is that, in your opinion—or is it—more favorable than cargo preference, where we indicate that the oil will be shipped in U.S.-flag vessels?

France, for example, I believe, presently has a cargo preference dictating that two-thirds of the oil coming into France be in either French vessels or those approved by the government of France. What is your opinion on this question of cargo preference as far as a world commodity?

Mr. **Heller**. In general, I would support free trade and the choosing of vessel of your choice. You want to move your cargo in the most efficient and least costly way available anywhere. Any time you create a monopoly for shippers of a specific commodity group, you put the suppliers of that particular commodity at a disadvantage because they have to bear these additional costs.

At the same time, you also provide a disincentive of the consumer, or the purchaser, to purchase from that particular source. In other words, if Japan is faced with the choice of buying higher priced U.S. oil because of higher transportation costs, you know, you are not creating an incentive on their behalf to purchase. But for a transition period I think it is perfectly reasonable to provide for those measures.

Senator MURKOWSKI. Well, there seems to be a harsh reality existing in the maritime world today where, if we do not retain some type of cargo preference, each country is going to be dependent on another country for the capability of having the necessary tonnage in the case of national emergencies. Since we have built up a domestic flag fleet of tankers, the likelihood of maintaining that fleet as an operating entity contributing to the movement of commodities—oil and various other petroleum products—is there and we have it available as opposed to having it mothballed or standing idle in case of national emergency. We have to maintain a capability to move petroleum products in a national emergency.

So what we have here is a proposal, if you will, for a compromise which I agree does not address the issue of total free trade, but in view of virtually every country now having some type of cargo preference, is it not just something that is realistic in the world today?

Mr. HELLER. Well, I agree with you. One could well have these cargo preferences. The question is whether you want to have the cargo preferences from now until eternity or not.

I think the national security argument is a bit overdrawn too. It is my understanding that of the fleet that is currently being used to transport that oil, part of it is useful to ship refined products and other parts are useful only for shipping crude oil.

If you think of a possible calamity somewhere else on the globe, we would need these ships to supply our troops abroad. Somebody made the argument it is not exactly standard operating procedure for U.S. Marines to carry crude oil along because they do not have any refineries once they hit the beaches available to them.

So probably you want to have a capacity to supply them with refined products, and that part of the fleet is clearly part of the fleet that you want to maintain.

In general, to have a specialized fleet for every commodity that you are hauling does not make too much sense.

Senator MURKOWSKI. Well, you have to move the crude to get the refined product. The Japanese are making extensive investments in new energy supply sources throughout the Pacific rim and in the Middle East. From your experience as a participant and as an observer, could you comment on what factors seem to be preventing investment currently in the U.S. energy-related fields?

Mr. HELLER. By the Japanese?

Senator MURKOWSKI. Yes, or the Koreans or those other members of the Pacific rim.

Mr. HELLER. One key factor right now is our own infrastructure to move these materials and get them to the U.S. coasts. At the present time, we do not have the infrastructure, as Ambassador Ingersoll also pointed out, to move our coal resources, for instance, from Wyoming and the Rocky Mountain States to the Pacific coast in an efficient manner. We do not have the harbor capacities on the east coast to enhance our exports of coal to Europe.

I think as a Nation we have to undertake some of the basic investments in our own infrastructure so that we will become competitive. Under those circumstances, then, you would have also, I believe, foreign interests investing more in coal mining facilities in the United States.

Senator **Murkowski**. I was particularly interested in your comment concerning China's holding the greatest potential reserves of oil in the Pacific rim, and recognizing the publicity that has been given to the recent contracts with various American exploration and development companies to proceed in the South China Sea, I believe, and other areas.

Do you foresee China becoming—and, if so, roughly when, what decade—a significant competitor in the Pacific area as far as marketing outside of China? For example, we understand that China as they develop their coal resources plan to utilize them for the most part within China. Do you foresee that in oil, or do you see significant export potential in China?

Mr. **Heller**. No, only marginal exports. Twenty billion barrels total reserve is about one-third of what Mexico has. So China, as their own drive for industrialization is proceeding, will undoubtedly be using the vast bulk of these resources domestically, but there will be a few marginal exports, but they will not be of major importance.

Senator **Murkowski**. Let me ask you a question of prevention. I do this with some hesitancy because recognizing you as a fellow banker and the realities associated with bankers and politics is one that often mixes like oil and water; it does not mix.

But I have heard the argument that Alaskan oil would be a significant contributor to improving the balance-of-payments deficits and that this would weaken our negotiation position and posture with Japan in regard to other areas of protectionism that we are quite concerned about, whether it be automobile exports or market access. If we were to achieve a more favorable balance of payments because of the exportation of a couple of hundred thousand barrels of Alaskan oil, this would reduce, in effect, some of our bargaining power politically on the other side.

Would you care to comment on that?

Mr. **Heller**. Well, to my mind it is a backward argument. I mean, you want to shoot yourself in your own foot so that somebody will say gee, what a poor fellow you are. I think to hurt yourself on purpose in order to achieve some other objective somewhere in the future is not exactly the right way to proceed.

I think we should continue to prevail upon the Japanese to continue to open up their markets, but, on the other hand, the data that I have presented in my paper show that Japan will always be a net exporter of manufactured commodities. There is no way around that because they have these enormous import requirements from us and from other resource-rich nations as far as their agricultural commodities are concerned, and as far as their raw materials, including energy are concerned.

Japan will have to earn the funds to pay for these resource requirements through their manufactured trade. I think it is time for the United States to realize that we have to rely a bit more on our rich resource base rather than on our manufacturing base to maintain our competitiveness internationally. I am not saying scrap the manufacturing base, but we have an enormous amount of resources available and we tend to sit on them and not do anything with them.

To marshal these resources and sell them abroad is, I think, a useful strategy to further the living standard in this country.

Senator **Murkowski**. We seem to be able to develop technology but not market it very well for a lot of reasons that are indeed unfortunate.

I want to thank you for a very well-reasoned and fine presentation. I think it represents to a large degree the investment community's interest in this issue as a global issue and again I would ask you if you would care to submit any further remarks for the record, it will be open for a 2-week period.

I very much appreciate your testimony and thank you and wish you a good day.

Mr. **Heller**. Thank you, Mr. Chairman.

Senator **Murkowski**. Our next witness will be Mr. John Beyer, president of Robert R. Nathan Associates of Washington, D.C. Mr. Beyer, I welcome you to the committee and note that you did not have to come very far in the hot weather—just across town.

I would welcome your testimony and ask that you proceed.

STATEMENT OF JOHN C. BEYER, PRESIDENT, ROBERT R. NATHAN ASSOCIATES, INC., WASHINGTON, D.C.

Mr. **Beyer**. Thank you, Mr. Chairman.

I am president of Robert R. Nathan Associates, which is indeed located in Washington, D.C.

Though I did not have to come very far, we did witness and feel the heat as a result of the usual traffic jams in the city at this time of the year.

I am pleased to accept the invitation to appear before the committee today and to comment on this important issue. I have submitted written testimony. In the interest of time, I would like to summarize that testimony as briefly as I can.

Senator **Murkowski**. You may be assured that your entire written testimony will be submitted for the record, as well as the testimony of the previous witness, Mr. Heller. Please proceed. I might ask you to speak a little closer to the microphone. I noticed some in the back are beginning to move up on the edge of their chairs, and I assume it is to hear you better.

Mr. **Beyer**. I will try to do that. Thank you.

I would like to focus my comments on the most recent study, which is one of several analyses that my associates and I have undertaken over the course of the last 5 years on the issue of whether or not to export Alaskan crude oil. This analysis, undertaken by our firm, focuses entirely on the economic and financial consequences of exporting Alaskan crude oil.

The focus is entirely on attempting to identify the salient issues and, wherever possible, to quantify them so that there is a means of measuring what the impacts will be. The results of that analysis were prepared in a report which has been submitted to the subcommittee and I would request, if possible, that it be printed in the record.[1]

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[1] See page 47.

Senator **Murkowski**. The entire report will be included in the record.

Mr. **Beyer**. Thank you, Mr. Chirman.

Let me state at the outset the conclusion which was reached in the study based on a examination of the financial consequences.

Essentially looking at the impacts financially on the State of Alaska and the Federal Government, oil producers, west coast consumers, and the domestic maritime industry and examining the economic impacts on the U.S. economy as a whole leads to the conclusion that there is a reasonable basis that a change in current policy should not be made.

Before summarizing the results of the analysis, I would like to identify briefly what I consider to be several of the salient characteristics of what I call the economic and institutional setting in which Alaskan exports are produced, consumed, and potentially exported. Quite often, these characteristics are not fully appreciated or understood and, as a result, the analysis which follows is also misunderstood.

The first and probably most important consideration is the need to recognize that there is a distinction between financial analysis on the one hand and economic analysis on the other. Financial analysis is concerned with measuring essentially transfers of resources or income between different groups or institutions within the U.S. or elsewhere, whereas an economic analysis is concerned with what the impact of a particular policy change would be on the U.S. economy as a whole.

For example, gains in Federal revenue, which is a financial gain, do not necessarily translate into an economic gain to the U.S. economy, or, conversely, financial losses incurred by consumers on the west coast do not necessarily translate into an economic cost to the U.S. economy.

The second characteristic is that of the approximately 700,000 barrels per day that is currently shipped to the U.S. gulf coast, about half of that amount is transported in vessels that are owned by the oil companies themselves, with the remainder owned by the independent shipping companies, a distinction that has some bearing, I think, on the financial analysis and indeed on the issue as a whole.

There is also a need to recognize that while there is a clear difference in the cost of transporting oil in a Jones Act vessel or domestic maritime vessel versus a foreign-flag vessel, that to focus only on the difference in transportation rates or the distances that oil will be shipped will not lead to an appropriate understanding of the potential gains or losses incurred.

Ultimately what matters in this analysis is the extent to which the value at Valdez and finally at the wellhead changes as a result of these exports, and that is influenced by the transportation costs. Because of that, particular attention and care in estimation of these transportation costs is important.

Another characteristic which is a reality, and that is that the price currently of Alaskan crude oil sold on the west coast is about $2 per barrel lower than the same barrel of crude sold on the U.S. gulf coast. There are a number of reasons for this, but the principal consideration appears to be what is called a transportation discount. The fact is that the difference in price is a reality.

A fifth characteristic is that the quantity of oil likely to be exported were exports permitted is not certain, but it is clear that Japan as a likely principal market would be able to exert substantial negotiating power and therefore be able to capture some of the transportation savings, but the oil producers themselves have limited incentives to export.

That Alaskan royalty oil is likely to be the first oil to be exported, which does have some financial implications. Finally, in our estimate were there to be complete freedom in the export of Alaskan oil the volume of oil would fall in the range of 250,000 to 350,000 barrels per day.

I might note here, Mr. Chairman, that our analysis is based upon an estimate of 300,000 barrels per day, so the numbers you see in the written testimony and that appear in the report are essentially based on that estimated volume.

Finally, Alaskan oil production—and this is an important characteristic, it seems to me—is projected by most observers, including the State government of Alaska and the oil producers, to peak by 1986 or 1987 and then to begin declining rather sharply thereafter, likely reaching levels equivalent to west coast demands by the early 1990's, which in effect means that the surplus available for exporting to Japan or other Pacific rim countries will essentially be disappearing within a 7- to 10-year period.

What were the results of the analysis? I would like very briefly to summarize these in two different components—first, the financial analyses or impacts and, second, the economic impacts.

In financial terms, the State of Alaska, the Federal Government and, to a lesser extent, oil producers within the United States would gain financially from exports. Japan and international maritime companies, or what are often referred to as foreign flag vessels, would also gain financially. These direct financial gains have been shown and summarized in table 1 of my testimony.

One observation about these financial gains to U.S. institutions is that approximately two-thirds are attributed to the price effect on the west coast. While this price increase with exports is probable, it is still uncertain and if it were not to occur then the revenue gained by the Federal Government and by the producers would be reduced to a very nominal amount, in fact sufficiently small to question whether on those grounds this policy should be considered.

West coast consumers and the independent shipping companies of the domestic maritime industry would be the principal, though not exclusively the only, institutions who would lose financially as a consequence of exports. West coast consumers would incur financial losses, as a result of the fact that there is a likelihood that prices would increase on the west coast. The extent of an increase is difficult to predict.

The extent to which it would be passed on from producers and refiners to consumers is also difficult to predict, but the existing disparity in prices between the west coast and the U.S. gulf or Alaskan oil clearly makes the potential for west coast consumers to incur costs as a consequence of exports.

The other adverse financial impact would fall upon the independent shipping companies in the maritime industry, principally as a consequence of the idling of vessels that would come about as a result of excess tonnage, and the estimates of these foregone revenues simply through the idling of these vessels without regard to other consequences are summarized in the testimony.

Let me just say one other comment before moving on to the economic effects, and that is, because of the attention given to what the consequences would be on the Federal revenue as a result of exports, we have made an estimate, admittedly indicative rather than precise in its estimation, of what the net Federal revenue would be with exports.

And our estimates show that the cumulative net Federal revenue over a 10-year period, which essentially would be the window during which exports would occur before declining Alaskan production would no longer make exports feasible, could be as high as $635 million—that is for the full 10 years in present value terms—but it could also be a negative $340 million, if the west coast price effect did not occur.

Let me turn briefly to the economic analysis. In economic terms, with one potential exception, the impacts on the U.S. economy as a whole that would occur with exports are negative. Admittedly, the magnitudes involved are small, but the fact that all but one are negative is important for policy considerations.

What are these economic impacts? They include a loss in gross national product of at least $250 million annually, which does not reflect lost production and services elsewhere in the economy, only the direct loss through reduction in maritime shipping services.

Second, a balance-of-payments cost to the United States of approximately $280 million annually; third, lost job opportunities of about 7,000 to 8,000, of which only a small part would be directly in the maritime industry, the others spread throughout the U.S. economy; and, finally, economic efficiency losses of approximately 20 cents per barrel for the U.S. economy.

Now the one potential gain—and there has been a lot of attention directed to the concerns, the likely increase in exploration and development for new oil in Alaska as a result of exports. I think when one looks at this very carefully I think we can see that there really are over expectations of what actually would be realized.

First, the incremental returns with exports to the producers on new oil, no windfall profits tax applied, in our estimate is approximately 12 percent. That is a relatively small increase to trigger in and of itself expenditures of the magnitudes that are required in Alaska for North Slope exploration and development.

But, more importantly, it seems to me, is the fact that other considerations dominate that decision—the world price of oil, the comparative cost of exploration and development in Alaska and elsewhere in the world, and, of course, because most of the North Slope producers are multinational corporations with interests around the world, they have choices, Alaska or elsewhere.

Finally, in that decision there is an important dimension related to time. Even if we assume that there is a direct causal relationship between this incremental increase of 12 percent and new exploration and development, our estimates are that less than

100,000 barrels per day at some distant point in the future would be produced.

The question is when, and that is important because the window for exports from Alaska is clearly limited in time simply because of the expected availability of production and surplus available for export. The question is, will a major producer make long-term commitments in major explorations in the expectation only that there is going to be an export market for his product, if indeed that market is closed off to him or is simply not available to him because of a declining demand and opportunities elsewhere?

I doubt it. And, therefore, I see the likelihood of a direct causal relationship between exports and this potential gain of increased exploration and development relatively modest in scope.

Finally, I have addressed both in my report and in my testimony two other issues that have, among other dimensions, economic facets—trade relations with Japan and oil security questions. There are many facets to both of those issues, some strategic, some political, and I have not directed my attention to those but, rather, to the economic considerations.

Let me simply say that in both cases I think that some of the issues that have been raised in the interest of exports are overstated and I think one has to look very carefully at least at the economic dimensions that I have been concerned with, at what likely benefits the United States would gain through exports in our trade relations with Japan and through improved oil security through exports.

Thank you, Mr. Chairman. I would be pleased to respond to any questions you may have.

[Mr. Beyer's prepared statement follows:]

PREPARED STATEMENT OF JOHN C. BEYER

My name is John C. Beyer. I am president of Robert R. Nathan Associates, an economic consulting firm, based in Washington, D.C., which provides economic research and analysis to private and public institutions, both in the United States and abroad. I am pleased to accept the Subcommittee's invitation to appear today and to have the opportunity to comment upon the issue of whether to permit the export of Alaska crude oil.

This issue has been before Congress on several previous occasions, as it is now in the context of reconsideration of the Export Administration Act. Beginning in 1978, when this question emerged once before, my associates and I analyzed the economic and financial impacts of a proposed relaxation or removal of the export ban on Alaskan crude oil and have continued that research and analysis to the present. Because of this continuing involvement over a 5-year period, we have become familiar with the issues and gathered the relevant information on a systematic basis. We have given continued study to the specific character of the impacts that are likely to occur were exports permitted.

Whether to permit exports of Alaskan crude oil is an important public issue. It is also an issue that is highly charged. Some aspects of the issue may be strictly political, such as military considerations or relations with Japan. We have dealt only with those dimensions that relate to the economic framework of the issue. The most recent analysis undertaken by Robert R. Nathan Associates of the economic and financial consequences of exporting Alaskan crude oil is an effort to identify the issues clearly and to provide the information, wherever possible in quantitative terms, to enable policymakers to assess the impact of their decisions. The results of our analysis have been prepared in a report that has been submitted to the Subcommittee and, I believe to other members of the Senate, and that I hope may be printed in the record.[1]

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[1] Robert R. Nathan Associates, Inc., "The Economic and Financial Consequences of Exporting Alaskan Crude Oil," Washington, D.C., May 1983.

First, let me state briefly the conclusion that emerged. When the financial impacts to the Federal Government, the State of Alaska, the oil producers, the maritime industry, and West Coast consumers are examined and the economic impacts to the U.S. economy as a whole are considered, there is a reasonable basis for concluding that a change in this important U.S. policy should not be made.

WHAT IS THE SETTING?

It is important to understand certain salient characteristics of the economic and institutional environment in which Alaskan crude oil is produced, distributed, and potentially exported. Quite often the failure to understand the characteristics of the setting leads to what I would term myths rather than to a realistic appreciation of the likely consequences of exporting Alaskan crude oil. The most important characteristics are these:

There is an important distinction to be made between the financial analysis of exporting Alaskan crude oil, which essentially involves the transfer of income or resources between institutions within the United States, and the economic effect of Alaskan exports on the U.S. economy as a whole. This distinction between financial analysis and economic impact assessment is seldom recognized in the discussiosn relating to this issue and, indeed, they are often intermingled and confused. Revenue gains to the Federal Government or the State of Alaska, for example, are not necessarily gains to the U.S. economy. Losses to West Coast consumers are not necessarily costs to the U.S. economy, nor are financial losses to the maritime industry necessarily economic costs to the U.S. economy. Public policy must be concerned about the transfers of resources; changes in public policy inevitably cause changes in the distribuiton of income. As a consequence, we must be clear as to who gains and who loses with any policy change. At the same time, as the merits of a policy change are examined, it is important to understand the effects of that policy change on the U.S. economy as a whole.

Currently, about 700,000 barrels per day of Alaskan crude oil are shipped to the U.S. gulf coast on domestic coast-wise (so-called "Jones Act") vessels. More than one-half of the tanker fleet is owned or leased on a long-term basis by the oil companies producing in Alaska, while the remainder is owned by independent shipping companies. This distinction in ownership of Jones Act vessels in the shipment of Alaskan crude oil is an important one.

There is a clear difference in the cost of transporting oil on Jones Act versus foreign flag vessels, but examining only the differences in transportation costs (or distances Alaskan oil is shipped) is misleading. What matters ultimately in the analysis of the financial and economic analysis is determining the extent to which the wellhead value (or netback value at Valdez) of Alaskan oil changes as a consequence of exports. Among other things, transportation costs determine netback or wellhead values, and therefore shipping rates, both domestic and international, must be carefully estimated.

Currently, the price of Alaskan crude oil sold on the west coast is about $2 lower than the same barrel of oil sold in the U.S. Gulf Coast. There are several reasons for this price difference, one of which might be called the "transportation discount." This "discount" arises from the higher cost of shipping Alaskan crude to the U.S. gulf coast. Whether this "discount" will disappear and, if so to what extent, should exports occur is one of the central questions for the economic and financial analysis.

The quantity of oil likely to be exported is not certain, but it is clear that (1) the oil producers have limited incentives to export (because of existing investment commitments to their own transportation systems, their take-or-pay contracts with the Panama Pipeline, their interest in maintaining their own distribution system for internal oil security and, as we shall see, because the incremental income earned from exports is so modest); (2) Japan, as the likely principal market for Alaskan oil, is in a strong negotiating position and would almost certainly capture some of the transportation savings; (3) Alaskan royalty oil would most likely be the first oil to be exported, again having implications for the financial analysis; and (4) based on our best assessment, the likely volume of Alaska exports during the foreseeable future, should they be permitted, would probably fall in the range of 250,000 to 350,000 barrels per day.

Replacement crude oil in the U.S. gulf market would most likely be supplied by Middle East sources, probably in large measure by those displaced from the Japanese market by Alaskan crude. Mexico would probably not supply the import requirements created in the U.S. gulf market by the reduction of any substantial volume of Alaskan shipments. Projected production levels, export quota policies, and lower quality crude oil indicate that Mexico would not play the role of substitute supplier in the event of Alaskan exports.

Alaskan oil production is projected by the State of Alaska and by the oil producers to begin declining by 1986 or 1987, reaching 1 million barrels per day by the early 1990's. Consequently, the surplus available for export from Alaska will be disappearing within a period of 7 to 10 years, another dimension of the setting with important implications for this policy.

WHAT WERE THE RESULTS OF THE ANALYSIS?

Financial analysis

In financial terms, the State of Alaska, the Federal Government, and, to a much smaller extent, the oil producers would gain financially from exports. Japan and international maritime companies (foreign flag vessels) would also gain financially. The direct financial gains attributed to exports at a level of 300,000 barrels per day are summarized in table 1.

TABLE 1.—DISTRIBUTION AND SOURCES OF FINANCIAL GAINS WITH EXPORTS OF 300,000 BARRELS PER DAY OF ALASKAN CRUDE OIL

[Millions of dollars annually]

	Royalty oil exports	West coast price effect	Other direct exports	Total
State of Alaska	141	66	10	217
Federal Government		194	28	222
Oil producers		68	10	78
Subtotal	141	328	48	517
Japan	47		15	62
International maritime companies	32		11	43
Total	220	328	74	622

One of the striking observations is that about two-thirds of the financial gains of U.S. institutions are due to the potential west coast price effect of exports, a price effect that is uncertain but probable. If it did occur, then the financial gains to the Federal Government and to the producers are so small as to question seriously whether the policy change should be considered.

West Coast consumers and the independent shipping companies of the domestic maritime industry would incur financial losses (shown in table 2). The impact on consumers is through the potential increase in the west coast price of Alaskan crude oil. As indicated previously, several reasons explain the approximately $2 difference for Alaskan crude sold on the west coast, of which it is estimated that the so-called "transport discount" is probably about $1. It is uncertain whether exports in the magnitude of 300,000 barrels per day would cause west coast prices to increase by $1.--and even if they did, they extent to which that increase would be passed on to the consumer—but the potential is clearly there for west coast consumers to be paying for most of the cost of exports.

TABLE 2. DISTRIBUTION OF FINANCIAL LOSSES WITH EXPORTS OF 300,000 BARRELS PER DAY OF ALASKAN CRUDE OIL

[Millions of dollars annually]

West coast consumers		328
Domestic maritime companies (due to idled vessels only)		246
Of which Atlantic Basin	101	
Of which Pacific Basin	145	
Total		574

The other adverse financial impact will be on the independent shipping companies in the domestic maritime industry. This loss would occur through the idling of about 25 vessels (16 in the Atlantic Basin and 9 in the Pacific Basin) which means forgone revenues of about $245 million annually. In addition, the independent shipping companies would lose revenues of about $80 million annually as a result of lower tanker rates caused by surplus tonnage. These revenue losses would be borne predominantly by the independent shipping companies since the oil companies would have incentives to retain their own tankers in the trade and thus would be the last to leave the trade.

Because of the attention given to Federal revenue, we have estimated what the net Federal revenue gain would be should exports occur. Direct Federal revenue gains were shown in table 1. Losses of Federal Government revenue would occur principally through two means: (1) reduced tax payments by independent shipping companies (estimated to be in the range of $35 to $40 million annually), which would be caused by the loss in shipping revenues that would occur with exports; and (2) the likely default by some independent shipping companies on their title XI loan guarantees. We have estimated approximately $400 million would be in default over a period of several years, which is approximately one-half of the amount at risk by independent shipping companies. The cumulative net Federal revenue expressed in present value terms for a 10-year period (which would be the "window" during which exports would occur before declining Alaskan production would no longer make exports feasible) could be as high as $635 million, or as low as a negative $340 million should the west coast price effect with exports not occur. Hence, not only is there uncertainty as to whether net Federal revenue will be positive or negative, but even under relatively optimistic assumptions, the cumulative Federal revenue is of a very modest magnitude.

Economic analysis

In economic terms, with one potential exception, the impacts on the U.S. economy as a whole that would occur with exports are negative. While the magnitude of these impacts is small, the fact that all but one are negative is important for policy consideration. These economic impacts include:

A loss in cross national product of at least $250 million annually;

A balance-of-payments cost to the United States of approximately $280 million annually;

Lost job opportunities of approximately 7,000 to 8,000, of which approximately only 1,700 would be directly in the maritime industry with the remainder in other industries throughout the U.S. economy;

Contrary to the expectations of many, there would be economic efficiency losses of approximately 20 cents per barrel for the U.S. economy associated with export of Alaskan crude oil.

The one potential gain is that exports could lead to increased oil exploration and development in Alaska and, hence, to increased oil production. Considerable attention has been given to this potential gain by some who have examined this issue. In my judgment, undue expectations should not be raised. The incremental after-tax gains of the oil producers with exports would be 4 to 5 percent on existing production and 10 to 12 percent on new oil. These are very modest incremental returns. Indeed, other factors are more dominant in determining whether additional exploration and development will occur in Alaska, such as the world price of oil, the comparative cost of exploration and development in Alaska and elsewhere in the world, and the comparative opportunities that these multinational corporations face as they examine their alternatives around the world. However, even if we assume that a direct causal relationship exists between this incremental increase in after-tax earnings of the oil producers and increased oil exploration, development and production, the result would mean less than 100,000 barrels per day of additional oil production. Moreover, even this modest additional production would occur at some unknown point in the future because of the long lead times involved in exploration and development.

Finally, I would like to address briefly two other matters related to the Alaskan crude oil export issue. The first concerns trade relations with Japan. It is argued by some that permitting the export of Alaskan crude oil will improve our relationship with Japan. While there may be some potential security or similarly related advantage, I fail to see any economic benefits that accrue to the United States through changes in trade relationships with Japan as a result of exporting Alaskan crude oil. Initially, the U.S. trade balance with Japan would improve, but improvements in bilateral trade balances are economically meaningless. While improving a bilateral trade balance, the export of Alaskan crude oil would lead to an overall balance-of-payments cost to the United States of about $280 million annually. Moreover, to the extent that an improved trade balance with Japan reduces Japan's incentives to relax its trade barriers to U.S. commodities and manufactured goods, a fundamental objective of U.S. trade policy would be adversely affected. Indeed, it is conceivable that what appears at first sight to be an improved bilateral trade balance from the export of Alaskan crude oil could result in a long-run deterioration in the fundamental trade balance between Japan and the United States.

The other matter concerns oil security. This issue has numerous facets, and I wish to touch upon only two dimensions. The first, which is simply a statement of fact is that the import dependence of the United States increases as a result of exporting Alaskan oil. Whether increased import dependence is a matter of concern to the United States, in economic or other terms, is ultimately a matter for policymakers to judge.

Second, there is clearly a trade-off between the investment being made in the strategic petroleum reserve, which is running in the billion of dollars to the U.S. economy and to the Federal Government, and retaining the availability of domestic crude oil production. Both serve the same objective, namely, to ameliorate price shocks should world supplies of petroleum again be curtailed. We should examine carefully the question of whether the United States should increase its import dependency through exports while continuing to invest in the strategic petroleum reserve.

WHAT CONCLUSIONS EMERGE FROM THIS ANALYSIS?

At the outset of my testimony, I stated briefly the conclusion from our analysis: The conclusion, emerging solely from examining the financial impacts and the economic consequences of exporting Alaskan oil, is that there is a reasonable basis to seriously question whether a change should be made in this policy. This conclusion is based on the following considerations:

The revenue gains to the Federal Government will be small and, indeed, could be negative;

The gains to the oil producers are so small as to raise genuine doubt whether increased oil production would occur due to exports alone;

All other economic effects on the U.S. economy as a whole are negative;

Aside from the potential adverse impact on West Coast consumers, the adverse impacts fall heavily on one segment of one industry—the independent shipping companies of the domestic maritime industry;

Moreover, these impacts will be permanent, while the financial gains to the State of Alaska, the Federal Government, and the oil producers will be short-lived because exports will be short-lived.

I would be pleased to respond to any questions you may have regarding our study, either now or that might be submitted later in writing to you.

[The following information was prepared by John C. Beyer at the request of the chairman.]

I. Comparisons of the Financial and Economic Impacts of Exporting Alaskan Crude Oil Under Alternative Assumptions

In "The Economic and Financial Consequences of Exporting Alaskan Crude Oil", Robert R. Nathan Associates, Inc. analyzed the full range of economic and financial impacts that would result from lifting the current ban on exporting Alaskan crude oil. This analysis was based on the judgments that, were exports permitted:

The volume of Alaskan crude oil exported would amount to an annual average of 300,000 barrels per day (b/d);

The 225,000 b/d of exports would consist of Alaskan State royalty oil;

Any Alaskan crude exported would be withdrawn from current distribution patterns in the U.S. Gulf/Caribbean market and replaced by Middle Eastern crude sources; and

Alaskan crude exported to Japan would be transported on foreign flag tankers.

In response to questions from Senator Frank Murkowski, Chairman of the Subcommittee on East Asian and Pacific Affairs of the Committee on Foreign Relations of the U.S. Senate, RRNA has prepared a complete financial and economic analysis of the impacts that would result from the exporting of Alaskan crude oil for four alternative configurations of assumptions, and compared the results with those of the original case in the RRNA report. The four new alternatives analyzed are:

Alternative I: Exports of 300,000 b/d are transported on Jones Act tankers to Japan.

Alternative II: Exports of 200,000 b/d are transported on Jones Act tankers to Japan.

Alternative III: Alaskan State royalty oil is 100,000 b/d.

Alternative IV: Mexican oil replaces the exported Alaskan crude in the U.S. Gulf/Caribbean market.

The financial and economic consequences of exporting Alaskan crude oil under these new four alternatives and of RRNA's original study are summarized in table 1.

Included among the economic impacts is the percentage increase in after-tax profits and the incremental production it may bring about, although there are strong doubts about the existence of such a direct causal relationship. As seen in table 1, even assuming such a relationship exists, the incremental crude oil production attributed to exports will be very small.

TABLE 1.—THE FINANCIAL AND ECONOMIC CONSEQUENCES OF EXPORTING ALASKAN CRUDE OIL UNDER ALTERNATIVE ASSUMPTIONS [1]

	Original case [2]	Alternative I 300,000 b/d exported on Jones Act tankers	Alternative II 200,000 b/d exported on Jones Act tankers	Alternative III 100,000 b/d State of Alaska royalty	Alternative IV Mexican oil replaces exported oil
Financial impacts and direct financial gains:					
State of Alaska (dollars/million/year)	215	165	130	155	215
Federal Government (dollars/million/year)	220	215	205	270	220
Producers (dollars/million/year)	80	75	70	90	80
Subtotal (dollars/million/year)	515	455	405	515	515
Japan (dollars/million/year)	65	40	30	65	65
International maritime companies (dollar/million/year)	45	20	15	45	10
Total (dollars/million/year)	625	515	450	625	590
Direct financial losses:					
West coast consumers (dollars/million/year)	(330)	(330)	(330)	(330)	(330)
U.S. maritime industry (dollars/million/year)	(245)	(145)	(90)	(245)	(245)
Total	(575)	(475)	(420)	(575)	(575)
Net Federal revenue gains (losses) (present value for 10 years):					
Assuming west coast prices increase (dollars million)	635	780	870	870	635
Assuming west coast prices do not increase (dollars million)	(340)	(195)	(105)	(105)	(340)
Economic Impacts: Gains (losses):					
Annual change in GNP (dollars/million/year)	(245)	(145)	(90)	(245)	(245)
Change in employment (jobs)	(9,100)	(5,700)	(3,400)	(9,100)	(9,100)
Annual change in balance of payments (dollars/million/year)	(280)	(200)	(135)	(280)	(200)
Economic efficiency gains (losses) (dollars/barrel)	(0.18)	(0.18)	(0.18)	(0.18)	1.30
Additional Alaskan production:					
Percentage increase in after-tax profits (percent)	12	8	8	12	12
Conjectural incremental production (b/d)	81,600	54,400	54,400	81,600	81,600

[1] All financial impacts, loss in GNP and balance of payment cost have been rounded to the nearest $5 million and the loss in employment has been rounded to the nearest 100 jobs.

[2] This is the original case analyzed in the RRNA report "The Economic and Financial Consequences of Exporting Alaskan Crude Oil."

Source: RRNA.

ALTERNATIVE I: EXPORTS OF 300,000 BARRELS PER DAY TRANSPORTED ON JONES ACT TANKERS TO JAPAN

The changes in the key variables underlying the financial and economic analysis are:

	Alternative I	Original
Transport cost from Valdez to Yokohama	$1.30	$0.52
Increase in netback	1.51	2.29

If exports are transported on Jones Act tankers rather than foreign tankers, the increase in netback would be smaller, and, therefore, the financial gains of the U.S. institutions would be approximately $60 million lower annually. The financial loss of west coast consumers would remain unchanged. The financial loss of the U.S. maritime industry would be about $100 million lower annually. There would still be economic losses, but these would be smaller. The annual loss in GNP would be approximately $100 million lower, the annual loss in jobs would be lower by approximately 3,400 jobs, and the annual balance-of-payments cost would be about $80 million lower.

ALTERNATIVE II: EXPORTS OF 200,000 BARRELS PER DAY TRANSPORTED ON JONES ACT TANKERS TO JAPAN

The changes in key variables underlying the financial and economic analysis are:

	Alternative II	Original case
Transport cost from Valdez to Yokohama	$1.30	$0.52
Increase in netback	$1.51	$2.29
Exports of crude oil (barrels per day)	200,000	300,000

As in Alternative I, the higher transportation cost of exports would result in a lower netback and lower financial gains for the U.S. institutions than in the original case. Since the volume of exports is smaller, the financial gains of the U.S. institutions will be smaller than in Alternative I, and would be approximately $110 million lower than in the original case. The reduction in the volume of exports might have a small impact on the price increase on the west coast. If it does, the loss of west coast consumers would be less than in the original case. The financial loss of the U.S. maritime industry would be approximately $155 million less annually. There would still be economic losses, though these would be smaller. The annual loss in GNP would be about $155 million lower, the annual loss in jobs would be smaller by about 5,690, and the annual balance-of-payments cost would be about $145 million lower.

ALTERNATIVE III: ALASKAN STATE ROYALTY OIL IS 100,000 BARRELS PER DAY

The change in the key variables underlying the financial and economic analysis is:

[Barrels per day]

	Alternative III	Original case
Alaskan State royalty oil	100,000	225,000

This reduction in Alaskan state royalty oil only results in a change in the distribution of the financial gains of the U.S. institutions. The annual financial gains of the state of Alaska would be lower by approximately $60 million, and the annual financial gains of the federal government and of producers would be higher by approximately $50 million and $10 million, respectively. All the other financial and economic impacts of exporting would remain unchanged.

ALTERNATIVE IV: MEXICAN OIL REPLACES THE EXPORTED ALASKAN CRUDE IN THE U.S. GULF/CARIBBEAN MARKET

The changes in the key variables underlying the financial and economic analysis are:

	Alternative IV	Original case
Delivered price of imported crude in U.S. Gulf	$30.08	$30.83
Transport cost of imported oil from origin to U.S. Gulf	.35	1.83

If the replacement oil is imported from Mexico rather than the Middle East, the delivered price of Mexican crude in the U.S. Gulf is expected to be based on the delivered price of the Saudi Arab light, which is the "marker" crude in the world oil market that determines the prices of most crude oil. The difference in the delivered price of imported crude will be $0.75 per barrel, reflecting the quality differential betwen the Mexican crude and Arab light. The only changes in the effects of exporting Alaskan crude would be on the balance of payments cost, which would be lower by approximately $80 million annually; on the economic efficiency gain, which would be $1.30 per barrel instead of a loss of $0.18 per barrel; and on the financial gains of the international maritime companies, which would be lower by approximately $35 million annually. All the other financial and economic impacts would remain unchanged.

II. AVERAGE AGE AND RATE OF DISPOSITION OF JONES ACT TANKER FLEET

For Jones Act tankers currrently engaged in the transportation of Alaskan crude oil the average age is:[1] 7.5 years per dwt for tankers in the Pacific basin; and 13.2 years per dwt for tankers in the Atlantic basin.

Because of the tendency to rebuild tankers in the Atlantic fleet, the actual average tanker age is probably less than 13 years. The relatively low age of Jones Act tankers engaged in the Alaskan crude oil trade reflects the recent investment by maritime shipping companies to meet the demand for moving Alaskan crude oil.

An estimate of surplus tonnage of Jones Act tankers has been prepared by RRNA for a 10-year period. This estimate is based upon several judgments and assumptions:

Exports of Alaskan crude oil average 300,000 b/d and are transported in foreign flag vessels;

There will be no change in the demand for tankers; and

Tankers are retired from the fleet when a certain economic life is reached.

For the last assumption, two alternative economic lives are used. One assumes an economic life of only 15 years for large tankers and 26 years for small tankers, which is the assumption used by Putnam, Hayes, & Bartlett.[2] An alternative and more realistic assumption is 20 years and 31 years for large and small vessels, respectively.[3] It should be noted that using an average economic life in this industry is of limited value, since domestic martime companies often retrofit tankers, thus extending their useful life by many years. The estimates of surplus tonnage for the 10-year period 1983-92 are shown in table 2.

It can be seen from table 2 that there is a substantial surplus tonnage of Jones Act tankers, equivalent in the initial years to about 30 percent of the total tanker fleet. Extension of the economic life of tankers by only 5 years substantially increases the surplus for a longer period of time. If changes in demand were also reflected, and particularly with the expected continued decline of non-Alaskan petroleum movements, the surplus tonnage would be even larger.

TABLE 2.—ESTIMATES OF SURPLUS TONNAGE IN THE JONES ACT TANKER FLEET

[Thousands of DWT]

Year	Assuming tanker lives of 15 and 26 years	Assuming tanker lives of 20 and 31 years
1983	3,233	4,212
1984	3,062	4,100

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[1] Weighted averages based on delivery dates and dwt as reported by MARAD and supplemented by data from industry sources.

[2] "The Export of Alaska Crude Oil, An Analysis of the Economic and National Security Benefits," Putnam, Hayes & Bartlett, Inc., May 1983.

[3] Even 20 years for large tankers understates their useful life, as reflected in the fact that mortgages on these tankers often exceed 25 years.

TABLE 2.—ESTIMATES OF SURPLUS TONNAGE IN THE JONES ACT TANKER FLEET—Continued

[Thousands of DWT]

Year	Assuming tanker lives of 15 and 26 years	Assuming tanker lives of 20 and 31 years
1985	2,652	3,813
1986	2,218	3,577
1987	1,830	3,490
1988	1,449	3,347
1989	985	3,062
1990	494	2,652
1991	241	2,218
1992	18	1,830

III. COMMENTS ON THE PUTNAM, HAYES & BARTLETT REPORT [4]

The Putnam, Hayes & Bartlett [PHB] report on the Alaskan crude oil export issue warrants special comments. While parts of PHB's analysis are based on appropriate theory and numerical estimates, there are several major conceptual errors and incorrect estimates which would cause an analyst to modify conclusions of this issue. RRNA's comments on these selected aspects of PHB's study are provided below.

1. PHB claims there will be no increase in prices on the west coast as a result of exports. The basis for PHB's conclusions rests on their assertion that there is no difference in prices of Alaskan crude on the west and gulf coasts because both prices are determined by international crude prices. The reality is that there is a difference in price (see table 3), and that the west coast price of Alaskan crude is not determined by the Saudi light marker since imports on the west coast are nominal. Virtually every other analyst, including proponents of exports, recognizes the probability of some increase in West Coast prices should exports occur. Failure to recognize this dimension of the export issue has important implications for several other of PHB's conclusions.

TABLE 3—AVERAGE PRICES OF ANS CRUDE

[Dollars per barrel]

	Pump station 1		West coast	Gulf coast	Difference between west coast and gulf coast prices
	Prudhoe Bay	Kuparuk			
1981:					
January	22.10		33.16	35.97	2.81
February	25.75		34.16	36.86	2.70
March	25.65		34.19	35.72	1.53
April	25.07		34.19	35.72	1.53
May	23.92		32.43	32.90	.47
June	23.21		32.22	33.02	.80
July	23.07		31.36	32.82	1.19
August	22.62		31.12	32.25	1.13
September	22.00		30.73	32.51	1.78
October	22.11		30.32	32.10	1.78
November	22.02		30.29	32.33	2.04
December	21.85		29.95	32.10	2.15
1982:					
January	21.08	19.97	29.65	30.99	1.34
February	19.38	19.63	28.63	29.12	.49
March	18.51	18.02	27.00	28.38	1.38
April	18.83	17.36	27.00	28.50	1.50
May	19.10	17.34	27.43	29.09	1.66

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[4] "The Export of Alaska Crude Oil, An Analysis of the Economic and National Security Benefits" Putnam, Hayes & Bartlett, Inc, May 1983.

TABLE 3—AVERAGE PRICES OF ANS CRUDE—Continued

[Dollars per barrel]

	Pump station 1		West coast	Gulf coast	Difference between west coast and gulf coast prices
	Prudhoe Bay	Kuparuk			
June	20.39	17.37	28.54	30.29	1.75
July	20.32	17.51	28.43	30.29	1.86
August	20.46	17.55	28.27	30.31	2.04
September	20.39	17.43	28.17	30.63	2.46
October	29.31	17.74	27.72	30.56	2.84
November	19.98	18.37	28.09	30.03	1.94
December	19.40	18.16	27.42	29.36	1.94

Source: Alaska Department of Revenue.

2. PHB claims that the ban on exports costs the U.S. economy $2.4 billion. This claim is wrong for several reasons:

(a) It is conceptually incorrect to treat redistribution of income as indicative of economic gains (or losses); PHB arrives at the estimate of $2.4 billion by subtracting $3.3 billion in "gains" by the maritime industry from $5.7 billion in financial "losses" to the federal government, Alaska and the oil producers.

(b) PHB fails to reflect the cost of exports (or gains if no exports) to West Coast consumers.

(c) PHB overestimates the gains to the federal government, Alaska and the oil producers because it (1) assumes exports of 500,000 b/d; (2) uses domestic shipping rates which are at least $1.50 higher than the actual shipping rates; and (3) fails to recognize Japan's ability to capture part of the transportation savings; and

(d) PHB also fails to show redistribution of income outside the U.S., mainly to Japan and owners of foreign flag vessels.

When these adjustments are made, the net redistribution of continuing the ban on exports is not a net "loss" of $2.4 billion but a net "gain" of approximately $0.7 billion.

3. PHB claims that there would be a transportation gain of $1.57 per barrel. This claim is wrong because PHB uses the change in world transportation costs rather than the change in costs to the U.S. economy. When the latter is measured there is a net transportation loss of $0.18 per barrel with the export of Alaskan crude oil.

4. PHB recognizes that Alaskan production is expected to decline but fails to understand the implications of this decline. The time dimensions of Alaskan oil production has important implications for the crude oil export issue. One implication concerns the impact on independent shipping companies. PHB projects a balance in the supply and demand for Jones Act tankers by the early 1990s. Even assuming that their estimates are correct (which the analysis in section II disputes), the balance will be achieved when Alaskan oil will no longer be available for export. By this time the adverse impact on the independent shipping companies will have occurred, an impact which is not reversible.

A second implication is that oil producers are even less likely to make long-term investment decisions based on exports if there is uncertainty about the future level of production and hence the availability of exports. With lead times measured in years, it is understandable why declining Alaskan production becomes important in examining the oil export issue.

A third implication of declining Alaskan production concerns Japan's willingness to purchase Alaskan oil. If future exports are uncertain, Japan's willingness to purchase will, at minimum, be reflected in lower purchase prices for Alaskan crude.

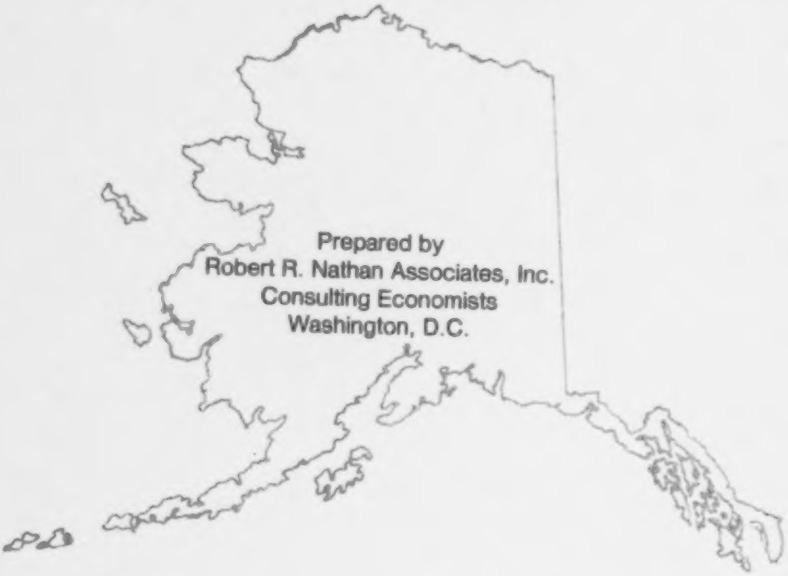
5. PHB claims that the maritime subsidies attributed to the export ban are $1 billion annually. This claim is wrong. PHB incorrectly calculates the "subsidy" (more appropriately, the higher price of Jones Act tankers) by using the full transportation rate of $5.25 from Valdez to the U.S. Gulf. In fact, it is the difference in netback values of Alaskan crude due to the avoidance of higher rates which should be used in assessing the cost of Jones Act tankers (see page 29 of RRNA's report). When these values are used, the estimate is less than $200 million, or one-fifth PHB's estimate.

6. PHB claims that maritime interests are the principal beneficiaries of continuing existing policy. This claim is incorrect. In fact, the principal "beneficiary" is the West Coast consumer. Other "beneficiaries" include the oil companies with their

own shipping divisions, the owners of the Panama pipeline, industries and workers throughout the U.S. economy which depend directly or indirectly on the maritime industry and, to the extent Jones Act tankers serve national defense needs, the United States.

[The following report was referred to on page 32.]

THE ECONOMIC AND FINANCIAL CONSEQUENCES OF EXPORTING ALASKAN CRUDE OIL



Prepared by
Robert R. Nathan Associates, Inc.
Consulting Economists
Washington, D.C.

May 1983

Robert R. Nathan Associates, Inc. (RRNA) has been retained by the American Maritime Association to assess the economic and financial consequences of exporting Alaskan crude oil. The judgments made and conclusions reached in this report are those of RRNA.

THE ECONOMIC AND FINANCIAL CONSEQUENCES OF EXPORTING ALASKAN CRUDE OIL

Prepared by

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May 1983

EXECUTIVE SUMMARY

This study by Robert R. Nathan Associates, Inc. analyzes the broad range of financial and economic impacts that would result from lifting the current ban on exporting Alaskan crude oil. Several judgments underlie the analysis, which reviews a five-year time period from 1983-87. The judgments are that:

- Were exports permitted, the volume of Alaskan crude exported would likely amount to an annual average of about 300,000 barrels per day (b/d);
- The bulk of that volume would consist of the projected total annual average amount of Alaskan state royalty oil or 225,000 b/d;
- Any Alaskan crude exported would be withdrawn from current distribution patterns in the U.S. Gulf/Caribbean market and replaced by Middle Eastern crude sources;
- Absent exports, the price of Alaskan sold on the West Coast would remain during the period under review at about $2.00 per barrel less than in the Gulf or about $1.50 less than estimated world market levels in the West Coast market;
- The impact of exports on the price of Californian crude is likely to be insignificant;
- The Japanese, as the principal market for Alaskan exports, would be able to extract at

least one-quarter of any additional per barrel earnings that might be obtained from exports; and

- Alaskan crude exported to Japan would be transported on foreign bottoms whose rates are lower than those of the U.S. domestic fleet, which currently transports all Alaskan crude to U.S. ports.

The results of the analysis demonstrate that additional earnings of $2.29 per barrel could be achieved by exporting Alaskan crude to Japan. This amount would be reduced by at least 25 percent to $1.72 per barrel by Japanese negotiating power. These earnings would result primarily from an avoidance of the higher freight rates of the U.S maritime industry. A further increase in earnings might result from a potential rise of up to $1.00 per barrel in the price of Alaskan crude sold on the West Coast.

Total average annual revenue "gains" of $517 million could potentially be achieved with exports. Nearly two-thirds, or $328 million, of these gains, however, would be contingent on an uncertain increase in the price of Alaskan crude on the West Coast. The balance would result largely from an avoidance of U.S. flag vessels. These gains would be distributed as follows: $217 million to the state of Alaska; $222 million to the federal government; and $78 million to the producing companies.

Correspondingly, "losses" would be incurred from exports. The U.S. merchant marine would suffer losses of approximately $325 million annually. In addition, the federal government would incur revenue losses from Title XI ship construction loan defaults and decreased tax payments by shipping companies. West Coast consumers could also face higher product prices with a rise in Alaskan crude oil prices in that market.

Revenue "gains" and "losses" resulting from the export of Alaskan crude would simply represent transfers of income among groups within the U.S. economy. Thus, "gains" from a West Coast price increase might represent in large part a transfer of income from West Coast consumers to the beneficiaries of exports (the state of Alaska, the federal government, and oil producers). Similarly, "gains" from an avoidance of U.S. flag vessels would represent a transfer of income from the U.S. merchant marine to export beneficiaries.

Revenue gains and losses that occur within the national economy must be distinguished from impacts on that economy. The results of the analysis demonstrate that exports would lead to adverse impacts on the U.S. national economy, a fact usually unrecognized by export proponents. An annual balance-of-payments cost of $280 million would be incurred. The U.S. gross national product would be reduced by at least $250 million annually as a result of exports. The export of Alaskan oil would also cause employment losses on the order of 1,700 in direct job losses in the U.S. merchant marine and 7,000 additional lost job opportunities throughout the economy as a consequence of the multiplier effect on associated industries.

Contrary to commonly held expectations, exports would result in a lowering of the efficiency of transport resource use. In principle, the prospects for further exploration and development of the Alaskan oil fields would be enhanced. In reality, however, an increase of only $.16 in per barrel after-tax earnings (or about 3-4 percent) on production from existing fields, or an estimated increase of about 12 percent on production in new fields, would be a nominal inducement to the development of new production in the difficult Alaskan environment. An improvement in the U.S. bilateral trade position with Japan would be achieved but, as indicated, at the cost of an overall balance-of-payments loss. Finally, with exports, U.S. dependency on foreign oil would be increased.

In summary, the potential impact of exports on the U.S. economy is almost universally negative. The only positive impact identified is the possibility that exploration and development of Alaskan crude might be furthered, but even in that case the actual impact of exports is likely to be slight.

Although it is not possible to undertake a comprehensive cost-benefit analysis of the many ramifications of the Alaskan export question, some conclusions can be drawn about the relative merits of lifting the export ban. For example, it is possible to estimate the net revenue benefits that might accrue to the federal government from exports. Although the federal government would benefit from tax revenue gains from exports, it would also suffer tax revenue losses. On balance, the net revenue gain to the federal government would be small, certainly not large enough by itself to justify the many negative impacts that would accompany exports, and could be negative if the West Coast price of Alaskan crude did not rise.

It can also be observed that the adverse effects of exports would fall most directly on the U.S. merchant marine, and within that industry disproportionately on the independent shipping companies compared to the proprietary shipping operations of the producing companies. Independent shipping companies would suffer revenue losses so great as to threaten the continued viability of some. It seems legitimate to question a change in established policy that would lead to such serious effects on a distinct segment of American industry in expectation of relatively small potential gains to the likely beneficiaries, particularly since the bulk of such gains are predicated on an uncertain and indeterminate market reaction, namely, an increase in the price of Alaskan crude on the West Coast.

There is also an important time dimension to the Alaskan crude export issue. The supply/demand imbalance for Alaskan crude in West Coast markets, which has been one of the reasons for the shipment of Alaskan crude to the Gulf Coast, will essentially disappear within a decade because of declining Alaskan production. Again, it is reasonable to question whether the combination of economic costs to the United States and the long-term serious impact on independent shipping companies should be incurred for the short-term financial gains of Alaska, the federal government, and the oil companies.

Because of the pervasive adverse impact of exports on the U.S. merchant marine, it is also legitimate to ask whether an export policy would not, either by design or happenstance, effectively abrogate the Merchant Marine Act of 1920 (Jones Act), or at least undermine for a considerable period the intent of that legislation. To some export proponents the repeal, or at a minimum the circumvention, of the Jones Act is the primary objective of an export policy. If the Jones Act is really the issue, then the continuing validity of that legislation should be argued on its merits.

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I. INTRODUCTION

Background

Since production of Alaskan crude oil began, its consumption has been limited essentially to the United States and its territories. Consequent to Congressional restrictions in the Trans-Alaskan Pipeline Act of 1973 and the Export Administration Act of 1969, particularly as amended in 1977 and 1979, the issue of exporting Alaskan crude has been rendered administratively moot. The rationale for this effective export "ban" was to offset declining production in the lower 48 states and the concomitant increased U.S. dependency on exported oil.

In the early years of production, Alaskan output was primarily consumed in Alaska and on the West Coast; i.e., Petroleum Administration Defense District V (PADD V). As production increased, the available supply of Alaskan crude outstripped demand for it in PADD V. The resulting imbalance led to the shipment of all crude in excess to PADD V requirements to markets on the U.S. East and Gulf Coasts and in the U.S. Caribbean area. Of the current production level of approximately 1.7 million b/d (barrels per day), some 900,000 b/d are regularly consumed in PADD V and about 800,000 b/d are shipped primarily to U.S. Gulf and Caribbean markets (see Table 1).

Table 1. Distribution of Alaskan Crude Production (thousands of barrels)

	Nov. 1981	Dec. 1981	Jan. 1982	Feb. 1982	March 1982	April 1982	May 1982	June 1982	July 1982	August 1982
Total Alaska	1,614	1,622	1,704	1,696	1,728	1,691	1,707	1,665	1,710	1,697
Less in-state consumption	100	100	100	100	100	100	100	100	100	100
Out-of-state shipments[a]	1,514	1,522	1,604	1,596	1,628	1,591	1,607	1,565	1,610	1,597
West Coast	878	746	706	702	798	891	755	861	869	798
East and Gulf Coasts and Caribbean	636	776	898	894	830	700	852	704	741	799

[a] The figures for shipments to the West Coast and through Panama to the Eastern United States are derived from percentages of out-of-state shipments destined for each area compiled by the Petroleum Revenue Division, Alaska Department of Revenue. These percentages have been applied to the total barrels per day volume available for shipment to render the barrel per day volume going to each area. Production and consumption figures were obtained from the same source.

Because of the requirements of the Merchant Marine Act of 1920 (generally known as the Jones Act), nearly all Alaskan crude shipped out of state is transported in U.S. flag vessels. The Jones Act mandates that all coastwise marine trade be carried on U.S. built, owned, registered, and operated vessels. A judicial exception permits Alaskan crude to be shipped to the U.S. Virgin Islands on foreign flag ships. As a result, some 100,000 b/d of Alaskan crude are shipped regularly to the Virgin Islands on foreign flag vessels. The distinction between U.S. and foreign flag vessels is of considerable financial significance, since international freight rates are below those prevalent in the U.S. domestic trade where operators are protected from foreign competition.

Since the decontrol of oil prices, the pricing of Alaskan crude shipped to the U.S. Gulf/Caribbean region has generally followed world market levels. Under orderly market conditions, Alaskan crude tends to be priced to the level of Saudi marker crude (Arab Light), less approximately $.50 in quality differential. The pricing of Alaskan crude on the West Coast (PADD V), however, has been in evolution over the past several years as the bulk of crude imports has been backed out by increased Alaskan production. Once priced in relation to world market levels in PADD V, which were generally about $.50 less than in the Gulf/Caribbean or PADD III area, Alaskan crude now sells in that market at some $2.00 less than PADD III levels.

Export Proposals

The issue of whether to continue restricting the distribution of Alaskan crude oil to U.S. markets has been reopened several times in conjunction with amendments to and the extension of the Export Administration Act. Each time, however, the restrictions against exports have been reaffirmed, primarily owing to continuing Congressional concern over U.S. dependency on imported oil, vulnerability to oil supply disruptions, and the impact on the domestic maritime industry of the potential loss of a substantial volume of business. A particular concern centers on the potential effect on national security of the loss of large numbers of ships from the merchant marine. With the Export Administration Act due to expire in September of this year, the relative merits of the export ban are once again being debated.

Rationale for Exports

Proponents of exports note that, in addition to the West Coast, the natural markets for Alaskan crude are Japan and the Far East. Shipping Alaskan crude through Panama to the U.S. Gulf is, from a marketing point of view, an economic distortion. Were exports of crude now destined for the Gulf to be permitted, proponents contend, the resulting financial and economic benefits would outweigh the advantages of restricting Alaskan crude to domestic consumption. These expected benefits include:

- More efficient use of economic resources. Shipping Alaskan crude to Japan instead of the U.S. Gulf/ Caribbean region would result in a more economically efficient use of transport resources because the distance to market would be substantially shortened. Savings in transport costs could consequently be achieved both from the reduction in the shipping distances involved in marketing Alaskan crude and by the use of foreign flag vessels, thereby avoiding the higher rates of the protected U.S. Jones Act fleet.
- Revenue gains. The transport savings obtained from selling Alaskan crude in Japan would lead to a higher wellhead price earned on each barrel of

oil sold compared to that earned on sales in the U.S. Gulf. Such gains would produce higher tax revenues for the federal government and for the state of Alaska and higher per barrel earnings for producers and for the state of Alaska on sales of its royalty oil.

With exports, a higher wellhead price could also be earned on Alaskan crude sold on the West Coast as a result of a rise in currently depressed West Coast price levels which would accompany exports to Japan. A similar impact might occur regarding the sale of California crude on the West Coast.

- Improved trade balance with Japan. Sales of Alaskan crude to Japan would measurably reduce the negative U.S. trade balance with that country.
- Lower costs to consumers. The transport cost savings resulting from selling Alaskan crude in Japan rather than in the U.S. Gulf would be reflected in lower costs of oil products to consumers.
- Increased production in Alaska. Producers would use the additional earnings resulting from a lifting of the export ban to increase exploration and development efforts in Alaska, leading ultimately to augmented output from Alaskan fields.

Marketing Implications

As export proponents suggest, Japan would likely be the primary foreign market for any volume of Alaskan crude sold abroad. It is geographically the closest foreign market, it imports nearly all of its crude oil requirements, and it seeks diversification away from unpredictable Middle Eastern suppliers. Moreover, any volume of Alaskan crude exported would almost certainly be subtracted from shipments in excess to PADD V demand otherwise destined for the U.S. Gulf/Caribbean market. With the export of Alaskan crude destined for that market, however, import requirements for that region would increase correspondingly. Such requirements would most likely be filled by Middle East sources, probably in large measure by those displaced from the Japanese market consequent to the export of Alaskan crude.

Mexico, although a major oil producer situated geographically close to the United States, would probably not be able to supply the import requirements created in the U.S. Gulf/Caribbean region by the cessation of any substantial volume of Alaskan shipments. Projected production levels, export quota policies, and lower quality crude all indicate that Mexico would not play the role of substitute supplier in the event of Alaskan exports (see Appendix A).

The Analysis

Robert R. Nathan Associates, Inc. (RRNA) has been engaged to analyze the principal financial and economic costs and benefits likely to result from a lifting of the Alaskan oil export ban.[1] Financial issues involve questions relating primarily to the distribution among existing and potential beneficiaries of revenue from the sale of Alaskan crude. Economic issues concern impacts on the U.S. national economy. The analysis attempts, where data permit, to quantify and compare those benefits and costs identified in order to estimate the net effect of exports. Other issues are also addressed, although political and policy judgments, such as the implications of defense and security arrangements, are not the focus of this study. The principal issues to be addressed are:

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[1] Robert R. Nathan Associates has previously analyzed the financial and economic implications of exporting Alaskan crude, most recently in its October 1981 report The Economic and Financial Consequences of Exporting Alaskan North Slope Crude Oil. Because of changed conditions in oil production and consumption, shipping rates, and other factors, the numerical results of the current analysis differ in some respects from the previous report. The basic findings and conclusions of both analyses, however, are the same.

Financial Issues:

- Would exports result in higher per barrel earnings from the sale of Alaskan crude, and if so, in what magnitude?
- If additional earnings could be realized, which parties would benefit and in what respective proportions? In particular, to what extent would the federal government benefit from increased tax revenues?
- Would consumers benefit from lower product prices as a result of an export regime?
- To what extent might any parties, e.g., the U.S. merchant marine and the federal government, be adversely affected by exports?

Economic Issues:

- What impact might Alaskan exports have on:

    U.S. balance of payments?
    Gross national product?
    Employment?
    Efficient use of resources?
    Trade relations with Japan?

- Would exports lead to increased exploration and development of Alaska's oil export potential?
- Would exports increase U.S. strategic and economic vulnerability to oil supply disruptions?

II. ANALYTICAL FRAMEWORK

A number of key variables underlie the analysis of the potential financial and economic benefits of lifting the ban on Alaskan crude exports. The parameters of these variables must be determined before undertaking the analysis. The time period analyzed is five years (1983-87) although longer term implications are also examined. A determination of each of the other principal variables follows.

Freight Rates

Freight rates are one of the major variables of the analysis. Both international (foreign flag) and domestic rates are required for particular routes. The most important route involves the transport of Alaskan crude from Valdez, Alaska, to the U.S. Gulf on U.S. flagships. The export proponents' principal argument is that per barrel earnings on sales of Alaskan crude currently destined for the U.S. Gulf could be substantially increased by exporting to Japan on foreign flagships, thereby shortening the distance to market and, more important, avoiding the higher freight rates of U.S. bottoms. Because the analysis of both financial and economic issues turns, to a large extent, on the impact of avoiding U.S. shipping to the U.S. Gulf, it is important to determine as precisely as possible the U.S. and foreign flag rates being compared and to ensure that such comparisons are made on similar cost bases.

International tanker rates are relatively easy to ascertain by reference to a schedule of international tanker rates published monthly in London.[1] This schedule, called the Average Freight Rate Assessment (AFRA), is based on a weighted average of existing spot and time charter rates. However, no similar rate schedule is published for tanker rates in the U.S. domestic market. U.S. tanker rates employed in this analysis, which have been obtained from such private shipping sources as brokers and independent shipping companies, are based on an average of existing time charter rates; they are therefore reasonably comparable to AFRA rates and provide a methodologically acceptable basis of comparison.

By contrast, freight rates employed in some analyses apparently represent isolated rate estimates obtained from particular oil companies. Rates employed internally by the oil companies are not, however, comparable to AFRA rates for several reasons.[2] Unlike the AFRA rates, they are not derived from an average of existing time charter rates. Rather, they are often based on rates of individual time charter contracts which tend generally to be higher than the average of existing time charter rates. Moreover, the rates cited by oil companies often include the carrying (interest) costs of financing crude sales while in transit and costs of crude losses and delays, none of which is included in AFRA rates. By including these additional costs in their freight rate calculations, integrated producers are able to transfer profits downstream to transport and refinery operations. In sum, for internal accounting purposes oil companies impute freight rates that are higher than average time charter rates and therefore not comparable to AFRA foreign flag rates.

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[1] See Shipping Statistics and Economics, H.P. Drewy (Shipping Consultants) Ltd., London, England.

[2] Oil companies own and operate or retain on long-term charter more than one-half of the total tanker fleet involved in the Alaskan oil trade.

Rates for the Valdez-U.S. Gulf route apparently used by some oil companies and in some analyses in the past year or so have been in the range of $5.00, compared to the current average time charter rate of $3.78 (see Table 2).[1] With U.S. rates on that route being quoted as much as $1.50 higher than the average of existing time charter rates, the magnitude of potential cost savings, and by extension revenue gains through the use of foreign bottoms, has been substantially overstated in those analyses of the Alaskan export issue which have failed to employ U.S. rates derived from cost bases comparable to those of AFRA international rates.

Wide variations continue to appear in discussions involving U.S. flag rates.[2] In hearings by the House Energy and Commerce Committee's Oversight and Investigations Subcommittee, the subcommittee cited a rate of $4.16 for the passage from California to the Gulf Coast alone. Similarly, Exxon executives pegged their transport costs on that single shipping leg at $3.85. Only SOHIO, which reported a cost of between $2.50-$3.00, cited figures ranging around the current, actual average transport cost of $2.64 ($3.78 less $1.14 for Valdez to Los Angeles) obtained in the open market, that is, on independently owned as opposed to oil company tankers.

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[1] The figure of $3.78 should not be taken to indicate the precision it projects. It is simply the outcome of calculations based on available data. Specific contracts could, however, be expected to range around this figure. See Appendix B for a detailed explanation of the calculations used to obtain this average rate figure.

[2] Reported in Oil and Gas Journal, February 28, 1983, p. 61.

Table 2. Estimated Transport Costs
(dollars per barrel)

Route	U.S. flag	Foreign flag
Ras Tanura - Yokohama[a]		$ .86
Valdez - Yokohama[b]		.52
Ras Tanura - Houston[c]		1.83
Ras Tanura - Los Angeles[d]		1.38
Valdez - Los Angeles[e]	$1.14	
Valdez - Houston[f]	3.78	1.65

a. VLCC class (160,000-319,999 DWT).
b. VLCC class (160,000-319,999 DWT).
c. VLCC class from Ras Tanura to Bahamas and 80,000 DWT class from Bahamas to Houston.
d. VLCC class.
e. 120,000 DWT class.
f. VLCC (182,000 DWT) from Valdez to Panama and 62,000 DWT class from Panama to Houston; includes Panama Canal tolls and transshipment fees.

Source: U.S. rates were obtained from industry sources and represent an average of existing time charter contracts; international (foreign flag) rates are based on AFRA rates. See Appendix B for fuller explanation.

The U.S. and international shipping rates required to undertake the analysis are summarized in Table 2. The current relationship between U.S. and international freight rates is assumed to remain stable during the period under review. This assumption is not likely to hold, however. International rates, which have been severely depressed for several years from the effects of considerable overtonnage, could well strengthen in the next several years. In contrast, a decline in U.S. rates, which has been in process the last year, is likely to continue. The magnitude of these relative changes in shipping rates is difficult to project, but to the extent that the differential in foreign and U.S. rates narrows, the potential transport cost savings from exports would decrease correspondingly.

PADD V Supply/Demand Imbalance

The Alaskan export issue largely derives from the supply/demand imbalance for Alaskan crude currently prevailing on the West Coast (PADD V). It is principally the volume of crude in excess of West Coast requirements, and currently being sold in the U.S. Gulf and Eastern markets, that export proponents advocate selling in Japan. The extent to which this imbalance will continue depends both on projected levels of production of Alaskan crude oil and on projected levels of its consumption in PADD V.

Estimates of Alaska's future production of crude oil vary, though the range of variation is small and the long-term trend generally accepted. Total production, which earlier had been forecast to peak in 1983 at 1.65 million b/d, is now projected by the state of Alaska to peak at 1.83 million b/d in 1987. One Alaska North Slope producer currently projects a peak of 1.8 million b/d in 1986.

During the five-year period of 1983-87 under review in this analysis, the production forecasts of the state of Alaska are used as a reference point (see Table 3).

There is a general consensus that Alaskan production will begin to decline by the late 1980s or early 1990s. The state of Alaska, for example, projects the decline beginning in 1988, dropping to approximately 700,000 b/d in 1999. Although the development of undiscovered new fields could moderate this decline, the likely occurrence of the decline in production has a direct bearing on the oil export issue. If crude oil available for export has only a limited duration, the willingness of the Japanese to enter major long-term agreements for this oil may well be affected. Moreover, it raises a basic question of whether the dislocations caused by Alaskan oil exports should be incurred if the benefits to be gained are limited to a relatively short span of time.

During the past 18 months, PADD V total demand has declined substantially and now stands at about 2.0 million b/d, of which 1.8 to 1.85 million b/d is supplied by production from PADD V itself and some 180-200,000 b/d by imports, primarily of Indonesian sweet crude. Of PADD V consumption, Californian output provides some 950,000 b/d and Alaskan about 900,000 b/d.[1]

Demand for PADD V production during the period under review is generally expected to remain relatively flat or to rise only gradually. Imports are expected to be progressively

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[1] Consumption data are from the California State Energy Commission and the U.S. Department of Energy. See also Table 1.

Table 3. Projected Alaskan Crude Oil Production
(thousands of barrels per day)

Year[a]	Projected North Slope production[b]	Projected Cook Inlet production	Projected total production
1983	1,611	72	1,683
1984	1,633	62	1,695
1985	1,724	52	1,776
1986	1,764	47	1,811
1987	1,785	42	1,827
1990	1,679	28	1,707
1995	969	15	984
1999	699	14	713

a. State of Alaska fiscal years (July 1 - June 30).
b. Includes Prudhoe Bay and Kuparuk fields.
Source: Department of Petroleum Revenues, State of Alaska. The department's forecast is developed from forecasts provided by producers, the Alaska Department of Natural Resources, and the Alaska Oil and Gas Conservation Commission.

backed out by the use of alternative energy sources (natural gas and hydropower) by major utilities. At the same time, the production of Californian crude, which has recently begun to rise, is expected to grow from a current level of about 1.1 million b/d to approximately 1.3 million b/d. Under the circumstances, consumption of Alaskan crude in PADD V is not likely to increase much beyond current levels of about 900,000 b/d.

The combined projections of Alaskan crude production and PADD V consumption of Alaskan crude indicate that approximately 700,000 b/d to 800,000 b/d would be surplus to PADD V and thus be shipped to the U.S. Gulf/Caribbean market. Of this amount, it is expected that 100,000 b/d will continue to be shipped to the U.S. Virgin Islands in foreign flag vessels. The remaining 600,000 b/d to 700,000 b/d would be destined for the U.S. Gulf and Eastern markets. It is this volume of crude that proponents of oil exports often refer to as the Alaskan crude "available" for export (see Table 4).

Crude Oil Prices

International Market

Price stability in the international crude oil market has depended historically on an orderly system of supply/ demand management. This system was maintained for many years by the Texas Railroad Commission, which controlled output in Texas while that state played the role of marginal supplier to the world at large. The large international oil companies for a short time assumed responsibility for maintaining orderly markets when Texas lost its position as the global marginal supplier in the early 1970s. OPEC effectively

Table 4. Estimated Alaskan Crude Available for Export
(thousands of barrels per day)

	1983	1984	1985	1986	1987
Estimated Alaskan production[a]	1,683	1,695	1,776	1,811	1,827
Estimated PADD V consumption[b]	900	900	900	900	900
Shipments to U.S. Virgin Islands	100	100	100	100	100
Balance, or shipments to U.S. Gulf and Eastern Markets	683	695	776	811	827

a. Table 3.
b. RRNA estimate.

lifted control of the international crude marketing system from these companies following the oil embargo of 1973-74. Under the system, all crude is pegged to the posted price of a particular "marker" crude, for many years Saudi Arab Light.

Recently, OPEC's management of the system has fallen into disarray and prices of individual crudes have fluctuated widely, making price determination for particular crudes difficult. For purposes of this analysis, therefore, an orderly market is assumed. In an orderly market, the relationship of different world market prices is constant, since all are pegged to the marker. The price of the marker in a particular world market is its posted price plus transport. This relationship among the different crudes is unaffected by changes in the marker crude, either upward or downward, but rather affected only by changes in transport costs.[1]

U.S. Domestic Market

Since decontrol, Alaskan crude sold in the U.S. Gulf region has been priced essentially according to world market conditions. As of two to three years ago, Alaskan crude sold on the West Coast was also priced at world market levels. Under normal market conditions, the difference in world market price levels in the two markets is about $.50, with the higher price in the Gulf.

In recent years, the price of Alaskan crude on the West Coast has declined progressively. Although different explanations are offered for the decline, a combination of factors

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[1] See Table 5 for an illustration of world market crude prices, assuming a marker crude price of $29.00 per barrel, as applied to the markets involved in this analysis.

Table 5. Estimated Delivered Prices of Relevant Crudes
(in dollars per barrel)

Crude and location of sale	Delivered price
Arab Light in U.S. Gulf[a]	$30.83
Alaskan in U.S. Gulf[b]	30.33
Arab Light in Japan[c]	29.86
Alaskan in Japan[d]	29.36
Arab Light on West Coast[e]	30.38
Current Alaskan on West Coast[f]	28.33
World Market Alaskan on West Coast[g]	29.88

a. Arab Light estimated reference or FOB price in Ras Tanura, Saudi Arabia of $29.00 plus $1.83 foreign flag shipping rate to Houston.

b. Arab Light delivered price in Gulf less $.50 quality differential.

c. Arab Light estimated reference or FOB price in Ras Tanura, Saudi Arabia of $29.00 plus $.86 foreign flag shipping rate to Yokohama.

d. Arab Light delivered price in Japan (Yokohama) less $.50 quality differential.

e. Arab Light estimated reference or FOB price in Ras Tanura, Saudi Arabia of $29.00 plus estimated $1.38 foreign flag shipping rate to Los Angeles.

f. Alaskan Gulf Coast price less approximately $2.00 differential generally obtained during the past two years, which apparently includes a $.45-$.50 world market locational difference and a $1.50 difference resulting from a combination of transportation cost differentials between West and East Coasts, and competition and weak market demands in PADD V.

g. Arab Light delivered price on West Coast (Los Angeles) less $.50 quality differential.

seems to account for the change. Foremost among these may be the backing out of nearly all imports by increasing Alaskan production. Imports once provided more than half of all PADD V requirements and maintained world market pricing conditions in that market.

In addition, as Alaskan production in excess to PADD V requirements grew, the volume of Alaskan crude required to seek markets in the Eastern United States increased correspondingly. This appears to have permitted refiners in PADD V to adjust prices to reflect a discount from the producing companies for enabling them to avoid shipping to the U.S. Gulf at the cost of the lower wellhead or "netback" price resulting from the higher transport costs. Increasing California production has also recently exerted downward pressure on Alaskan crude prices in PADD V, as have conservation, the substitution of fuel efficient technologies, and the persistence of product demand patterns significantly incompatible with the product slate produced by Alaskan crude oil.

As a result of this combination of factors, the differential between West Coast and Gulf Coast prices has widened to approximately $2.00. This is about $1.50 beyond the differential that would exist if world market conditions with Saudi crude as the benchmark were operative in both markets. Theoretically, the existing differential could not widen beyond a maximum of $2.64, the current transport cost differential, for at that point it becomes more profitable to sell in the U.S. Gulf.[1] Although some analysts believe that continued pressure from increased Alaskan production will, in the absence of exports, depress West Coast prices to the theoretical maximum, it remains to be seen whether this will actually happen. It seems more reasonable to expect that the $2.00 differential established over the past 18 months represents an adjustment to prevailing conditions that will persist for the foreseeable future, a postulation accepted as the likely case for this analysis. As previously indicated, production excess to West Coast demands is not likely to grow beyond an average of about 100,000 b/d during the period under review. Such a relatively modest volume will not likely exacerbate conditions much beyond existing levels and therefore will not likely exert much further downward pressure on prices.

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[1] The $2.64 represents the difference between the $3.78 rate for shipping to the Gulf and the $1.14 rate for shipping to the West Coast.

Volume of Exports

The volume of Alaskan crude that would be exported to Japan if the ban were lifted is a major variable of the analysis. Most of the financial and economic costs and benefits associated with exports are affected by potential per barrel transport cost savings. These costs and benefits would be magnified by the number of barrels actually exported. The threshold question thus becomes: If exports were permitted, what volume of Alaskan crude would actually be exported?

Alaskan Royalty Oil

The state of Alaska claims 12.5 percent of total Alaskan crude production in royalty payments from producers. The state may either market the oil directly or take in payment 12.5 percent of the wellhead price of producer crude sales. It can be reasonably assumed that the state would, if permitted, export the entire volume of royalty oil available to it. Although the state is in the process of undertaking term commitments for a portion of its royalty oil, none would likely affect the availability of that oil over the time period under review. Assuming an annual average Alaskan production over the period of 1.8 million b/d, Alaska would have on average some 225,000 b/d available for exports. In this analysis, it is therefore assumed that with a lifting of the ban the state of Alaska would most likely export an average of 225,000 b/d during the next five years.

Other Alaskan Production

It is difficult to estimate with precision the extent to which producers would export any of their production volume. Producers operate largely within integrated structures that are well adjusted to existing circumstances. Their transport divisions carry Alaskan crude on their own tankers or on long-term charters, and their refinery divisions purchase most, if not all, of their production. Maintaining a secure supply of crude from their own production volume is an important advantage to producers which, although difficult to quantify, represents a major disincentive to exports. The three principal producers, SOHIO, Exxon, and ARCO, have all signed substantial "take or pay" contracts to use the Trans-Panama pipeline which run for three years beginning in 1982.

Because of these operational, financial, and policy considerations, producers appear to have little immediate incentive to export. It would therefore likely require a substantial potential rise in per barrel after-tax profits to induce producers to export. Such an incentive might be provided by the export of any discoveries classified as "new" oil. "New" oil production is not subject to the windfall profits tax and would offer producers a larger share of the transport savings that might result from exports than would the export of "old" oil under existing distribution patterns.

The principal "new" oil currently in production comes from ARCO's Kuparuk field on the North Slope, with production running at about 100,000 b/d and expected to increase to as much as 250,000 b/d within the next few years. But because ARCO has officially stated its opposition to exports, it seems unlikely that it would take the lead in exporting, even from the "new" oil being produced in its Kuparuk field.

The Role of Japan

Proponents of Alaskan crude oil exports generally assume that Japan will readily purchase any quantity of Alaskan crude available for export. This assumption must be considered carefully. While Japan appears intent on diversifying its energy sources, a major shift from its current principal suppliers to Alaskan crude is unlikely. Japan is not likely to want to disrupt its traditional sources of crude supply, which such a shift would entail. The quality of Alaskan crude would also require adjustments by Japanese refiners. Moreover, if long-term Alaskan crude production is expected to decline, there is a question as to whether Japan will be prepared to accept large quantities of Alaskan crude in the next several years. In brief, the role of Japan as one of the parties in determining the quantity of Alaskan crude to be exported is an uncertain one.

Export Scenarios

There are two possible general scenarios for the export of Alaskan crude oil: (1) total, unrestricted exports and (2) exports restricted to some degree by policy or practice.

Extreme Export Scenario

At one extreme, it is at least theoretically possible that all Alaskan production, less the 100,000 b/d already being "exported" to the U.S. Virgin Islands and the 100,000 b/d consumed in Alaska, would be exported. As previously indicated, however, it is highly unlikely from a practical standpoint that this would occur given producers' many disincentives to export and the uncertain willingness of Japan to import large quantities of Alaskan crude. For analytical as well as policy reasons, however, it is useful to review such a scenario to determine the approximate outer limits of the implications of an open, unrestricted export policy. This "Extreme Export Scenario" will therefore be reviewed as one of two export scenarios considered in this analysis, but only with regard to the issue of potential revenue gains and their distribution. The conclusions can serve as a basis of comparison with the claims of some export proponents of the potential windfall revenue earnings exports would produce.

Likely Export Scenario

If exports were permitted, they would likely be restricted to some degree, either by policy, legislation, or market and operating considerations, to some part of that volume of Alaskan crude which continued to be in excess of West Coast (PADD V) requirements. It is expected that producers would continue to sell as much Alaskan crude in PADD V as possible since the profitability of that market for Alaskan crude would be roughly comparable to the market in Japan. Moreover, it is unlikely that the producers would want to disrupt the refining and distribution system that has become well established for Alaskan crude on the West Coast. In this analysis, it is assumed that the likely average level of exports over the period under review would be about 300,000 b/d: 225,000 b/d in royalty oil and some 75,000 b/d exported by the producers.[1] Allowing for the 100,000 b/d already being exported to the U.S. Virgin Islands, the 300,000 b/d would represent about 40 percent of the approximately 700,000 to 800,000 b/d which would otherwise be shipped to the U.S. Gulf through Panama (see Table 4).

The 300,000 b/d figure seems appropriate for several reasons. The only reasonably certain export volume would be the 225,000 b/d in Alaskan royalty oil. Producers have little incentive to export in the near future. In fact, because of sunk-in capital costs in tanker operations and long-term charter arrangements for other shipping requirements, the export of any volume higher than 300,000 b/d would begin to affect adversely not only the business of independent tanker operators but also that of the transport divisions of the producers themselves (see Appendix C).

The "Likely Export Scenario" will be used to undertake analysis of the full range of financial and economic issues to be reviewed in this study.

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[1] Export volume would likely begin in small increments, rising to encompass all Alaskan state royalty oil and gradually including increasing amounts by producers, averaging 300,000 b/d for the entire period.

Japanese Buyer's Share

If either the state of Alaska or any of the producers were actively seeking to export, Japan (or possibly one or two other Far Eastern countries) would be in a position of negotiating strength since the only alternative market for Alaskan crude would be back in the U.S. Gulf market. Under these circumstances, Japanese buyers could be expected to negotiate a lower than world market price for the Alaskan crude and capture from the sellers some of the higher wellhead price that would result from a savings in transport costs. Although this negotiating strength could likely be exercised against the state of Alaska because of its clear export orientation, it would have limited immediate effect on most producers because of their lack of any strong incentives to export.

Estimating how much this negotiating strength would represent in financial terms in this case is difficult. It suffices to say that the additional per barrel earnings potentially obtainable from Alaskan exports would likely be reduced by an amount to be negotiated between buyer and seller, which reflected the buyer's stronger bargaining position. In this analysis, it is assumed for the "Likely Export Scenario" that the Japanese would be able to obtain at a minimum a 25 percent share of the transport cost savings of any volume of Alaskan crude actually exported. Any such share would represent a direct income transfer from the United States, more precisely the U.S. maritime industry, to the Japanese.

III. FINANCIAL ANALYSIS

The financial analysis has three principal objectives: (1) to determine whether an export policy would lead to an increase in earnings from the sale of Alaskan crude oil and, if so, to what extent; (2) to determine how such potential earnings would be distributed among the likely beneficiaries; and (3) to determine whether parties which currently benefit financially from the export ban, such as West Coast consumers and the maritime industry, might suffer financial losses from a lifting of the ban and, if so, to what degree. The financial analysis is intended principally to determine the redistribution of income that would occur with a change in policy on oil exports. The issue of who gains and who loses is central to any policy analysis.

Any potential additional earnings from exports would be derived primarily from transport cost savings and a possible rise in the price of Alaskan, and possibly Californian, crude sold on the West Coast. The extent of such savings and any price rise must be determined before undertaking the financial analysis.

Transport Cost Savings and Their Impact on Wellhead Values

Export proponents contend that by selling Alaskan crude in Japan rather than in the U.S. Gulf the distance to market would be shortened and lower cost foreign bottoms would be employed, thereby lowering transport costs and correspondingly raising wellhead values (and thus per barrel earnings) by an amount equal to the savings in transport costs achieved. Before examining these assumptions, some understanding of the functioning of the international crude marketing system is required.

In an orderly market, crude values in any market are determined by or in relation to the posted (FOB) price of the Saudi marker plus the cost of transporting the Saudi marker to that particular market. Other crudes may, if closer to a particular market than Saudi Arabia is to that market, obtain a higher FOB or wellhead value than the Saudi marker FOB. Conversely, if located farther from a market than Saudi Arabia is, a crude will obtain a lower FOB price or wellhead value than that of the Saudi marker. The wellhead values of most crudes are thus a function of their location (relative proximity to a particular market vis-a-vis the proximity of Saudi Arabia to that market) and of the Saudi marker price. The wellhead value of Alaskan crude is further determined by the higher freight rates of the U.S. merchant marine.

Transport Cost Savings

Given this background, the determination of transport cost savings in terms of distance to market involves a comparison of the distance from Alaska to Japan with that from Saudi Arabia to Japan. In terms of wellhead values, a saving in transport cost is only significant in relation to the cost of transporting Saudi marker to the same market. To determine potential cost savings from both a reduction in shipping distances and the use of lower cost foreign bottoms requires a comparison of the total cost of transport under the existing distribution pattern with the total cost of transport under the distribution pattern that would result from exports.

Under the existing distribution pattern, a barrel of Alaskan crude is shipped from Valdez to the U.S. Gulf and a barrel of Saudi crude from Ras Tanura to Yokohama at a total cost of $4.64.[1] With exports this distribution pattern would be reversed: Valdez to Yokohama and Ras Tanura to the U.S. Gulf, with the transport of one barrel to each market costing a total of $2.35.[2] Exports would thus result in a total transport cost savings of $2.29:

	Total cost
Existing distribution pattern	$4.64
Distribution pattern with exports	-2.35
Transport cost savings	$2.29

1.	Transport cost from Valdez to Houston on U.S. flag	$3.78
	Transport cost from Ras Tanura to Yokohama on foreign flag	.86
	Total cost	$4.64
2.	Transport cost from Valdez to Yokohama on foreign flag	$ .52
	Transport cost from Ras Tanura to Houston on foreign flag	1.83
	Total cost	$2.35

It remains to be determined to what extent such savings affect the wellhead value of Alaskan crude.

Wellhead Values

The effect on the wellhead value of Alaskan crude can be shown by using market price as the point of reference. Comparing the netback (i.e., wellhead price) from a sale of Alaskan crude in Japan with that from a sale in the U.S. Gulf demonstrates the rise in wellhead value with exports:

	Delivered price	Less transport	Netback
Sale in Japan	$29.36	$ .52	$28.84
Sale in Gulf	$30.33	$3.78	$26.55
Increased wellhead value			$ 2.29

Thus, with exports, savings in transport costs could be achieved that would result in a direct increase in wellhead value of $2.29 of all Alaskan crude exported to Japan.

Source of Transport Cost Savings

It is important for other aspects of the financial analysis to determine to what degree transport cost savings are attributable to a reduction in shipping distances and to what extent to an avoidance of higher cost U.S. bottoms. If it costs $.86 to transport a barrel of Saudi light to Japan and only $.52 to ship a barrel of Alaskan crude to the same market, a savings of $.34 has been attained by shortening shipping distances. Since overall transport cost savings with exports were calculated at $2.29, then $2.29 less $.34 results in $1.95 of savings per barrel attributable to an avoidance of the higher rates of the U.S. maritime fleet.

Other Wellhead Value Impacts

Alaskan West Coast Price

The other principal variable potentially affecting wellhead values is the possibility that a rise in the depressed price of Alaskan crude selling on the West Coast might result from exports. This variable is expected to behave differently under the two export scenarios.

Extreme Export Scenario

The outer limits of potential revenue gains under this scenario would be reached at the point that exports produced the maximum possible increase in the West Coast price of Alaskan crude. This would occur under two conditions: (1) if before exports the West Coast price had been depressed to the lowest possible level as against the Gulf Coast price; i.e., the point at which the difference between the West Coast and Gulf Coast prices of Alaskan crude represented the full transport cost differential between the two markets ($2.64) and therefore produced the same wellhead value;[1] and (2) if with exports of all Alaskan crude now sold in the Gulf, the price of all remaining Alaskan crude (excepting that already "exported" to the Virgin Islands) would rise to a level that would yield the same wellhead value as that obtained in export whether actually exported or not. This would occur because with exports neither producers nor the state of Alaska would be willing to sell in PADD V unless the price would result in a netback (wellhead value) equal to that obtainable from a sale in Japan. The wellhead value obtained in export would be $1.72 per barrel, which is the transport cost savings of $2.29 per barrel less the negotiated Japanese share, assumed to be 25 percent.

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[1] Under normal market conditions, sales of Alaskan on the West Coast should produce a wellhead value $2.14 higher than that from a sale in the Gulf, i.e., the transport cost differential of $2.64 less $.50 in world market locational difference (see p. 19).

Likely Export Scenario

As previously noted, it is unlikely that the price of Alaskan crude will be depressed much further. The current price differential of $2.00 appears to be relatively stable if price behavior in the past 18 months is considered a guide. It is also unlikely that with exports the West Coast price would rise to the same level as the Gulf price, or to a point that would produce the full rise in wellhead value as that which the export of a barrel otherwise destined for sale in the Gulf would produce. That could only happen if transport costs were the only factor currently depressing the West Coast price of Alaskan crude, which is not the case.

Because several factors account for the current differential between the lower West Coast price and the higher price in the U.S. Gulf, it is difficult to anticipate the extent to which modest export volumes would reduce this differential, if at all. Part of the differential (approximately $.50 of the $2.00) most likely represents a world market locational difference. The remaining $1.50 difference can be ascribed to several factors, of which the transport "discount" is one. This transport "discount," which would be affected by exports of Alaskan crude, is estimated to be approximately $1.00. Whether West Coast prices of Alaskan crude would rise by this full amount is uncertain. Indeed, under an export scenario of 300,000 b/d, it is also possible that there would be little or no West Coast price rise. With the continued restriction of some 500,000 b/d to Gulf Coast markets and weak demand in West Coast markets, downward pressure on Alaskan crude could remain.

California Crude Price

It is possible that, as in the case of Alaskan crude, the price of Californian crude would also rise with exports of Alaskan crude to Japan. This possibility rests on the strength of the assumption that the price of Californian crude is linked to that of Alaskan and would therefore follow any rise in the price of Alaskan crude on the West Coast. Such an assumption is difficult to sustain, however, in view of the realities of the Californian crude market.

Although the depressed price of Alaskan crude on the West Coast resulting from the supply/demand imbalance exercises some downward impact on the price of Californian crude, other factors explain the lower relative price of this crude. These include a consistent low demand for the residual fuel oil and other products derived from the heavy, sulphorous Californian crude; the strict air pollution standards that narrow the demand for the Californian product slate; and the inability of many refineries to use heavy crude. Indeed, the price of Californian crude has generally been similar to world market levels of comparable heavy crudes.

Under the circumstances, it is deemed too speculative to estimate what level of increase in the price of Californian crude might result from exports. With the export of only the 300,000 b/d foreseen in the "Likely Export Scenario," it is doubtful that any increase would be more than marginal. No attempt has been made to quantify this factor.

Lower Freight Rates

As discussed in Appendix C, exports would lead to a substantial decline in domestic shipping rates. The extent and likely duration of such a decline can only be approximated, but the decline would raise wellhead prices by a corresponding amount and accordingly increase Alaskan state government and U.S. federal government tax revenues.

Revenue Gains

Extreme Export Scenario

This scenario is being reviewed to demonstrate the outer limits of potential revenue gains under a policy of open and unrestricted exports, and as a comparison with other analyses. The scenario thus assumes the export of 1.6 million b/d of the 1.8 million b/d in average Alaskan production projected for the period under review, excepting the 100,000 b/d already "exported" to the U.S. Virgin Islands and the 100,000 b/d consumed in Alaska. It also assumes that 1.7 million b/d would benefit from a rise in wellhead value of $1.72, the maximum possible for all production whether currently sold in the U.S. Gulf or in PADD V, following a Japanese negotiation of a 25 percent share in the transport cost savings.[1]

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[1] This includes both the 1.6 million b/d exported and the 100,000 b/d consumed in Alaska.

As shown in Table 6, the potential revenue gains available in the "Extreme Export Scenario" amount to an average of about $1 billion annually over the five-year period being reviewed. This figure can be compared to claims by the Alaska Statehood Commission, for example, that the lifting of the export ban might ultimately raise wellhead values by some $2-3 billion. Such immense magnitudes are obviously wide of the mark, partly because of different (and incorrect) values used for key parameters (such as shipping rates and the West Coast price effect) and partly because of a different (and inappropriate) analytical framework.

As previously discussed, the assumption that all Alaskan production would be exported is unrealistic. There is little likelihood that, apart from Alaskan state royalty oil, exports in any volume would occur within the first few years following the lifting of the ban. It is also doubtful that the Japanese market could absorb such large quantities of Alaskan crude given relationships with other suppliers and likely misgivings about the actual security of Alaskan supply in the event of pressing U.S. need or declining Alaskan production in the early 1990s.

Likely Export Scenario

The "Likely Export Scenario" assumes an export volume of 300,000 b/d. This volume represents that amount removed from the Gulf market which, upon sale in Japan, would produce a wellhead value $2.29 higher than that from a sale in the Gulf. It also assumes that the Japanese would negotiate a one-quarter share of this increased wellhead value by way of a lower delivered price, thus reducing the actual wellhead increase for the 300,000 b/d exported to $1.72. Finally, it assumes a rise in the wellhead value of West Coast sales in the amount of $1.00.

Table 6. Potential Revenue Gains Under Alternative Export Scenarios (millions of dollars annually)

Extreme export scenario	Likely export scenario (300,000 b/d)
Gulf Coast[a,c]	Gulf Coast[c]
800,000 x $1.72 x 365 = 502	300,000 x $1.72 x 365 = 188
West Coast[b,c]	West Coast[d]
900,000 x $1.72 x 365 = 565	900,000 x $1.00 x 365 = 329
$1,067	$517

[a] Of the 900,000 b/d destined for the U.S. Gulf/Caribbean region, 100,000 are already being "exported" to the U.S. Virgin Islands and are assumed to be unaffected by an export policy.

[b] Assumes that all PADD V sales equal Gulf price less transport differential between Los Angeles and Houston; in other words, at the same FOB or netback to Valdez price.

[c] Assumes Japanese negotiate one-quarter or $.57 of the $2.29 increase in wellhead value.

[d] Assumes a $1.00 increase in West Coast price of Alaskan crude.

As indicated in Table 6, under the "Likely Export Scenario," potential revenue gains amount to an average of $517 million annually over the period under review.

Distribution of Gains

Extreme Export Scenario

As shown in Table 7, under this scenario the state of Alaska would be a major recipient of any potential gains, attributable both to additional earnings from sales of royalty oil (12.5 percent of total) and from increased state corporate income and severance taxes (20 percent of total). With nearly 60 percent of the total from windfall profits and corporate income taxes, the federal government would also gain substantially from additional earnings from exports. Producers would gain too, about 8 percent of the total, or $88 million. But at a $.16 per barrel after-tax increase compared to an overall $4-5.00 per barrel after-tax profit already being earned from Alaskan sales, the modest additional earnings obtainable from the extreme export scenario would not likely prove incentive enough for the producers to modify existing patterns of distributing Alaskan production. Such modest earnings would have even less impact on exploration and development plans in Alaska, which increasingly involve investment levels several orders of magnitude larger than $88 million in additional annual earnings.

It should be recalled that this scenario serves only illustrative purposes. There is little possibility that such large volumes assumed in this scenario would ever be exported, even under the most favorable circumstances.

Table 7. Distribution of Gains Under Alternative Export Scenarios (millions of dollars annually)

	Extreme export scenario[a]	Likely export scenario[b] (300,000 b/d)
State of Alaska	348	217
Federal government	631	222
Producers	88	78
Total	1,067	517

a. Assumes the following percentage shares:

State of Alaska	.326
Federal government	.591
Producers	.083
	1.000

b. Assumes that 225,000 b/d of export volume will consist of Alaskan royalty oil.

Likely Export Scenario

Under this scenario, as indicated in Table 7, or under any scenario of restricted exports, the proportionate share of earnings of the state of Alaska would dramatically increase as the state would export all of its royalty oil (Table 8). In so doing, it would reduce the volume of potential exports of the producers and therefore the potential earnings producers might obtain from exports. The additional annual earnings available under this scenario are $517 million. The state of Alaska and the federal government would take about 85 percent of the total, shared about equally (Table 8). The producers would obtain $78 million (an average of $.14 in additional per barrel earnings), but again not sufficient to have any impact on exploration strategy or to provide much incentive to export.

West Coast Price Impact

It is particularly important to note that 63 percent of the earnings, or $328 million, would come from a projected increase of $1.00 in the price of Alaskan crude sold on the West Coast (see Table 8). As previously indicated, such an increase is uncertain with a restricted export level of 300,000 b/d. It is conceivable that only a modest increase, or perhaps no increase at all, would result from the export of that volume of Alaskan crude. Even with exports, a supply/demand imbalance of 500,000 b/d would still remain as a depressant on West Coast price levels, along with other downward pressures previously discussed.

Table 8. Distribution and Source of Revenue Gains Under Likely Export Scenario (millions of dollars annually)

	Royalties	West Coast price effect	Direct exports	Total
State of Alaska[a]	141	66	10	217
Federal government[b]		194	28	222
Producers[c]		68	10	78
Total	141	328	48	517

a. State of Alaska obtains full wellhead increase on its own exports and some 20 percent in income and severance taxes on West and Gulf Coast gains.

b. Federal government obtains roughly 60 percent of West and Gulf Coast gains in windfall profits and corporate income taxes.

c. Producers receive the balance on West and Gulf Coast gains after taxes.

Revenue Losses

U.S. Maritime Industry

The export of 300,000 b/d of Alaskan crude would reduce the revenues of independent shipping companies by idling vessels and depressing shipping rates on those vessels remaining in the trade.[1] The idling of an estimated 25 vessels would result in foregone revenues of approximately $245 million annually. The loss in revenue from depressed freight rates has been estimated at about $80 million annually. Further losses would likely result from the spreading effect of declining rates on independent tankers in the non-Alaskan oil trades. Thus, the aggregate annual decline in independent shipping company revenues would likely be greater than the $325 million lost annually from the combination of revenue losses resulting from idled vessels and lower rates in the Alaskan trade. The revenue losses would be borne predominantly by the independent shipping companies since the oil companies' incentives would be to retain their own vessels in the trade and thus would be the last to leave the trade.

With exports the revenues of proprietary vessels would also decrease, although such "losses" would be passed back upstream in integrated producer operations as profits in the form of higher wellhead prices.

As rates are depressed on either the independent or proprietary vessels, maritime industry revenue losses would

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1. The term "independent" is used to denote companies owned by non-oil company interests. The term "proprietary" refers to ships owned and operated or on long-term leases to the producing companies.

lead to revenue gains for the state of Alaska and the federal government.[1]

Federal Government

With exports the federal government would incur losses both from defaults on Title XI loan guarantees and in the form of reduced corporate income tax payments from shipping companies. Title XI loan guarantees potentially at risk are estimated to be about $850 million.[2] What the magnitude of actual defaults would be and when they would occur are difficult to anticipate. It is reasonable to expect, however, that government losses on loan defaults would be several hundred million dollars over several years. Federal revenue losses from reduced corporate tax payments are also difficult to estimate because the relevant information on tax payments is proprietary. It is clear, however, that such payments would be sharply reduced, if not altogether eliminated. One estimate of foregone tax revenue, based on industry sources, is $35 million to $40 million annually. Additional losses would result from recovery of previous taxes paid (through carry-back loss provisions).

West Coast Consumers

The potential impact of exports on consumers can only be adverse. Consumers in the eastern United States would be unaffected because exports would not change the price of Alaskan crude sold in the U.S. Gulf region. The price of Alaskan crude sold on the West Coast, however, can only increase with exports, with potential adverse effects on West Coast consumers. The extent of this increase is uncertain, as is the proportion of it that might be passed on to West Coast consumers. But to the extent that it occurred, income would shift from consumers to the state of Alaska, the federal government, and the oil producers.

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[1] See Appendix C for a full discussion of the impact of exports on the U.S. merchant marine.

[2] This figure does not include Title XI guarantees for ships owned by or on long-term leases to the oil companies.

Net Federal Revenue

With the attention given to federal revenue that would occur with exports, it is useful to assess what the net federal revenue gain would be. Such an assessment can only be approximate: not all the revenue effects can be measured and even those which can are rough estimates. Moreover, recognizing that the revenue effects have different time dimensions (for example, Title XI defaults are more or less one time events), the net federal revenue gain should be examined over a span of years and on a common basis, such as the present value of the net federal revenue.

For illustrative purposes, this calculation has been made for the likely export scenario using a 10-year time span and reflecting (1) federal revenue gains in each year of $222 million (Table 8); (2) foregone income tax payments by the shipping industry of $40 million annually; (3) carry-back losses of $40 million in each of the first three years; and (4) $400 million in Title XI defaults distributed over the mid-years of the period. With a discount rate of 15 percent, the present value of net federal revenue for the full 10 years is $635 million. Of particular importance, if there were no increase in West Coast prices, net federal revenue would be a negative $340 million. These calculations, even though illustrative, demonstrate that federal revenue gains are modest at best (and could well be negative) and that the West Coast price increase is a critical factor.

IV. ECONOMIC ANALYSIS

The economic analysis is intended to determine in what manner and to what extent the export of Alaskan crude oil would affect the U.S. economy. It is not concerned with which parties gain or lose financially but rather with whether the United States, in economic terms, gains or loses. Various impacts are assessed in this chapter -- impacts on the balance of payments, gross national product (GNP), employment, and efficiency in the use of national resources.

All the economic impacts that can be measured are negative. Only in the case of new oil production is the impact likely to be positive, but as will be discussed shortly, the effect of Alaskan crude exports on new Alaskan oil production is uncertain. Though the magnitude of the economic impacts is generally modest -- due primarily to the level of exports of 300,000 b/d assumed in the analysis -- this should not detract from the basic finding that these impacts are adverse to the U.S. economy.

Gross National Product

To the extent that foreign shipping is substituted for domestic shipping of exported Alaskan crude, there would be a direct reduction in domestic goods and services, or GNP. These direct reductions in GNP, in turn, have indirect effects elsewhere in the economy -- for example, reduced activities in ship repair and building yards, which in turn reduce the level of activities of various industries supplying the yards, and so on -- so that the total GNP loss through the multiplier effect is greater. The annual GNP losses attributed to the export of 300,000 b/d of Alaskan crude are estimated to be at least $250 million (see Appendix C for the basis of this estimate).

With the current serious underutilization of domestic resources in the U.S. economy -- relatively high unemployment, low capacity utilization of plant and equipment, and stagnant investment -- such losses in the production of goods and services represent an economic cost to the United States. Although a return of the U.S. economy to full employment and production might ameliorate these adverse GNP consequences, there is little prospect that the U.S. economy will achieve these goals within the next two to three years.

Employment

Closely associated with the loss in GNP would be a reduction in employment opportunities. Part of the adverse impact on employment resulting from the export of Alaskan crude would occur in the domestic maritime industry, where direct job losses are estimated to be on the order of 1,700. The larger employment impact would be felt throughout other sectors of the economy by industries dependent upon the maritime industry either as suppliers of intermediate inputs or purchasers of their output. These multiplier effects would result in approximately 6,000-7,000 lost job opportunities (the basis for these estimates is described in

Appendix C). Many persons might over time be reemployed, but with continuing high unemployment rates the economic cost of the lost job opportunities would probably continue for some time.

Efficiency of Resource Use

Proponents of Alaskan crude exports contend that economic resources of the United States would be used more efficiently in an export regime than under existing circumstances. That contention confuses the question of the efficiency of national resource use with efficiency gains of Alaskan producers. Although it is more efficient for the producers to ship Alaskan crude to Japan rather than to the U.S. Gulf, that is not the issue. Rather, the issue is how the United States can most efficiently ship a barrel of crude to the U.S. Gulf.

Efficiency gains or losses in the use of U.S. economic resources to bring a barrel of crude to the U.S. Gulf are determined by comparing the cost to the United States of shipping Alaskan crude to the U.S. Gulf by the most economically efficient means of transport with the cost of the most economical means of importing the Persian Gulf crude substitute. The most economically efficient means of crude oil transport at present is foreign flag shipping. Thus, the analysis requires the use of foreign flag rates for both of the shipping routes being compared, including the route from Valdez to the Gulf, as it is the foreign flag rate -- not the protected Jones Act rate -- that represents the real cost to the United States of that route in a fully efficient market.[1]

The cost to the United States of transporting Alaskan crude from Valdez to Houston on foreign flag vessels has been estimated at $1.65 (see Table 2). To transport Arab Light from Ras Tanura to Houston would cost the United States $1.83. To determine the net economic resource gain or loss to the United States, these two transport costs per barrel are compared as follows:

Ras Tanura to Houston	$1.83
Valdez to Gulf	1.65
Net resource cost	$0.18

It would cost the United States more in real terms to import Persian Gulf crude on foreign flag vessels than it would to ship Alaskan crude to Houston on foreign flag vessels, since the shipping distance involved is greater. Thus, contrary to the expectations of many, an export of Alaskan crude would involve transport efficiency losses -- not gains -- for the U.S. economy.[1] The situation would be reversed, however, were Mexico to provide the crude to replace Alaskan exports because of the greater geographical proximity of Mexico.

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[1] A fully efficient market price for shipping in domestic trades could only be achieved by permitting foreign flag vessels to operate in U.S. coastal commerce, which is prohibited by the Jones Act. A foreign flag rate for the Valdez-Houston route must therefore be constructed or imputed for purposes of the efficiency analysis. The difference between this lower imputed foreign flag rate and the higher Jones Act rate represents the cost of the Jones Act as such. It is not, however, the cost of the Jones Act, or the degree of protection afforded Jones Act vessels, that is being measured here, but rather the cost of oil transportation in an export regime. That cost is shown by comparing prices for shipping in a fully efficient market, in this case, a market with foreign shipping on both sides of the equation.

Balance of Payments

Although not generally recognized by export proponents, the export of Alaskan crude oil would adversely affect the U.S. balance-of-payments. The potential effect can be determined by comparing the netback for Alaskan crude to be sold in Japan with the cost of purchasing the Arab Light substitute. The difference between what the U.S. would pay for Arab Light delivered in the U.S. Gulf ($30.83 per barrel) and what the U.S. would receive for exports to Japan ($28.84 per barrel at Valdez) is $1.99 per barrel.[2] This balance-of-payments cost per barrel of $1.99 would result in a total annual balance-of-payments cost to the United States of $218 million (300,000 b/d x $1.99 x 365 days) under the "Likely Export Scenario" assumed in this analysis.

Were Japan able to capture part of the transport cost savings by negotiating a lower price for Alaskan crude, the balance-of-payments cost to the United States would increase. For reasons described earlier in this report, it is likely that the Japanese would be able to negotiate such a discount. Assuming that the discount would be 25 percent of the cost savings, the additional balance-of-payments cost would be

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[1] Nor would export of Alaskan crude result in more efficient production of Alaskan crude, since production costs would remain unchanged.

[2] Delivered prices of relevant crudes are presented in Table 5. The value of Alaskan exports to Japan of $28.84 is the delivered price in Japan ($29.36) less the cost of transport ($.52).

$62 million annually, or a total balance-of-payments cost of $280 million.

U.S.-Japan Trade Balance

Although exports of Alaskan crude would improve the U.S. trade balance with Japan, improvements in bilateral trade balances are economically meaningless. While improving a bilateral trade balance, exports would lead to an overall balance-of-payments cost to the United States of $280 million. Moreover, the export of Alaskan crude could cause long-term trade problems, in that it would reduce incentives for the Japanese to remove trade barriers to U.S. manufactured goods, a fundamental objective of U.S. trade policy for Japan. At the same time, an improved trade balance would enable the Japanese to remove their export restraints on automobiles, steel, and other manufactured products, causing increased pressure on U.S. industries. Thus, while the export of Alaskan crude would improve the U.S. trade balance with Japan, the improvement would be only temporary and based solely on the export of a natural resource. Such a policy might well lead to a further deterioration in the trade balance on manufactured products.

Exploration and Development

One of the benefits of permitting Alaskan crude exports often cited by export proponents is that higher wellhead prices will lead to increased production of oil through the development of new fields. In principle, higher prices should (over time) lead to higher production, but it is uncertain whether this will occur in Alaska as a direct consequence of exports.

To the extent that there is a supply response, it will almost certainly be small. It is not expected that potential incremental earnings of $78 million annually from exports, or about 14 cents per barrel on current production, would have more than a nominal impact on decisions that producers might make with regard to further exploration and development of Alaskan oil reserves.[1] First, the incremental earnings of only 14 cents per barrel on an existing base of $4 to $5 per barrel represent a percentage increase in earnings of less than 5 percent. Moreover, the further exploration of Alaskan crude centers on rugged and remote areas, such as the Beaufort Sea, where annual exploration costs per company reach magnitudes considerably beyond the level of $78 million. Second, additional monetary incentives to continue exploration and development in Alaska have been provided by tax cuts of two years ago, which relieved producers of a considerable portion of the windfall profits tax burden by reducing windfall profits tax on all "new" oil production. This tax incentive and changes in world oil prices are much larger than the nominal after-tax increase in wellhead prices that could be obtained with exports. And third, given the global context in which exploration and development decisions are considered, alternative opportunities may well provide as profitable long-term investments to the oil companies as does Alaska.

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[1] Of the $78 million additional earnings, $68 million is attributed to a price increase of Alaskan crude on the West Coast (see Table 8). Recognizing the uncertainty of this price increase, the annual incremental earnings of the producers could be only $10 million.

Even assuming that a direct causal relationship exists between exports and new production, annual additional crude oil production would probably be less than 100,000 b/d. This is based on an estimated 10 percent to 12 percent increase in wellhead price for "new" oil with exports and a supply response of 0.4.[1] Small changes in the values used in this analysis -- such as a firming of foreign flag rates, a continued softening of domestic shipping rates, or the ability of the Japanese to negotiate a larger share of the transport cost savings -- could reduce the production response to a minimal level. Recognizing the lead time in development of new fields, particularly in the Alaskan environment, whatever additional production occurred would be well in the future, whereas the economic costs of exports would be incurred immediately.

Import Dependency and Vulnerability

An issue of continuing importance is the increased dependence on imported energy supplies implied by the proposed export of Alaskan crude. That increased dependence on foreign sources of oil increases both U.S. strategic and economic vulnerability to dislocations in the event of a world oil shortage is indisputable. Technically, the net oil import position of the United States would not change (Alaskan exports would be offset by imports), but on a gross basis the United States would become a larger oil importer, with most of the increased oil coming from the Middle East. The current easing of world oil prices and continuous surplus of crude production capacity should not obscure the fact that U.S. dependency on imported oil would increase with the export of Alaskan oil.

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[1] This supply response (or supply elasticity, which is the percentage increase in supply in the long run for a one percent increase in price) is based on estimates in Paul MacAvoy, Crude Oil Prices: As Set by OPEC and Market Fundamentals (Cambridge: Ballinger, 1982), chapter 2.

It can be argued that increased oil dependency is immaterial since with a curtailment of world oil (by OPEC, war, or for other reasons beyond U.S. control), oil would be rationed by the price mechanism and hence the United States would not experience shortages. Even assuming that such would be the case, it is not at all clear that the United States should be willing to incur the higher cost of a resource when that cost is the direct result of a non-market force. Nor is it necessarily in the economic interests of the United States to incur the costs of unemployment and lost production which are associated with sudden and sharp increases in oil prices (as in 1973 and 1979). The only way to moderate the high costs of oil in such events is to have domestic supplies available. Indeed, the principal rationale for the Strategic Petroleum Reserve is to moderate domestic oil prices in the event of a prolonged or particularly sharp curtailment. That, in turn, raises the question of whether the United States should increase its import dependency and exposure through exports of Alaskan oil while continuing to invest substantial sums in the Strategic Petroleum Reserve.

APPENDIX A. MEXICAN EXPORT POTENTIAL

The question of the source of crude that would replace Alaskan crude withdrawn from the U.S. Gulf region for export to Japan bears directly on the issue of efficient use of transport resources. Were Mexico rather than Saudi Arabia to serve as the origin of the crude substitute, exports to Japan would result in a more efficient use of transport resources than is now the case or would be the case with Saudi crude serving as the substitute. For the reasons outlined in the following paragraphs, however, Mexico would not likely be able to provide the replacement crude were exports of Alaskan crude to occur.

Mexico ranks fourth in the world in terms of crude oil production. In 1982, production of crude oil reached an average of 2.746 million b/d. In 1983, production is expected to increase slightly to 2.75 million b/d (the official production ceiling for 1983). Mexico's negligible projected increase in oil production in 1983 reflects present strains in its economy and austerity measures that it is undertaking to reduce inflation, which is now running at 100 percent. A large part of Mexico's high inflation is being attributed to prior years' unrestrained spending by the oil industry and, therefore, the oil industry has become a prime target for reduced spending. The direct result has been budget cutbacks of previously planned projects. Another factor contributing to reduced spending on oil production has been the softening in world oil prices. Oil production expenditures have been outstripping increases in oil revenue, thus making it more difficult to finance projects.

Yet another factor affecting export potential is domestic demand. Current domestic demand for oil stands at about 1.3 million b/d. Although demand continues to rise, domestic refinery capacity is limited to about 1.5 million b/d and is not expected to expand much in the near term. Future export potential will thus be influenced primarily by production increases. As noted, the rate of such increases appears to be on a downward trend.

Export potential is also affected by the composition of crude production. Current production consists of about 60 percent light Isthmus crude and 40 percent heavy Mayan crude. This ratio is changing to a 50:50 mix because light Isthmus crude from onshore sites is being depleted. The shift toward the production of heavy crude makes the marketability of Mexican production abroad more difficult in competition with better quality crude.

Finally, Mexico's policy of limiting exports to any given country to 50 percent of total export production constrains particularly any role as a substitute supplier in the event of exports of Alaskan crude. The United States had consistently imported the full 50 percent portion permitted to any single country and can be expected to do so in the future. As long as Mexico retains this policy, it is unlikely that there will exist any unutilized portion of the 50 percent quota which the United States could draw upon to satisfy the need to replace 300,000 b/d or more of Alaskan crude.

APPENDIX B. PETROLEUM TANKER RATES

International Rates

The international freight rates used in this report are based on the January 1983 Average Freight Rate Assessment (AFRA) as published by H.P. Drewry (Shipping Consultants), Ltd., London, in its monthly publication *Shipping Statistics and Economics* (see Table B-1). AFRA rates are a weighted average of time charter rates and spot market rates. The spot market, which is indicative only of near-term rate trends, does not provide a firm basis for use in analysis.

International rates are based on the so-called Worldscale System. A brief description of this system is necessary to understand how international shipping rates are set.

The Worldscale System is sponsored and published jointly by an organization composed of the International Tanker Nominal Freight Scale Association, Ltd. and the Association of Ship Brokers and Agents (Worldscale) Inc. as a reference and guide to parties engaged in international tanker chartering. The Worldscale organization calculates and publishes base freight rates semiannually, referred to as Worldscale 100, for thousands of freight routes. These Worldscale 100 base rates are expressed in U.S. dollars per long ton of cargo. Tanker owners and charterers use these Worldscale

Table B-1. AFRA (Average Freight Rate Assessment)[a]

YEAR	MONTH[(b)]	TANKER SIZE (DWT)					
		GENERAL PURPOSE 16,500-24,999	MEDIUM 25,000-44,999	LARGE 1 45,000-79,999	LARGE 2 80,000-159,999	VLCC 160,000-319,999	ULCC 320,000-549,999
1981	February	229.0	189.4	118.9	77.7	47.0	39.2
	March	225.3	169.9	103.0	71.6	46.6	40.9
	April	225.0	167.0	97.7	67.0	44.7	39.6
	May	220.0	158.0	91.1	65.1	44.0	40.8
	June	214.4	150.9	89.1	63.8	43.9	36.7
	July	176.2	137.4	74.9	52.8	37.1	31.0
	August	170.8	126.6	71.0	50.5	36.7	30.2
	September	168.6	119.0	68.0	49.0	36.2	30.4
	October	161.4	122.6	67.6	48.5	36.3	31.8
	November	167.7	120.5	66.4	49.6	36.6	31.1
	December	162.4	122.8	67.0	50.5	36.4	30.0
1982	January	180.6	137.1	76.1	56.2	39.5	32.0
	February	184.8	138.3	77.9	56.8	39.6	32.9
	March	177.6	130.7	73.2	51.8	39.0	32.5
	April	169.5	130.9	71.1	49.8	38.4	29.3
	May	169.2	125.7	69.9	49.3	38.7	28.8
	June	164.8	125.2	69.2	50.7	38.0	30.6
	July	177.7	130.7	73.2	52.5	38.1	32.1
	August	172.5	126.0	72.6	50.6	37.4	32.1
	September	170.0	125.6	71.2	50.1	37.5	31.2
	October	165.3	127.7	70.0	49.1	37.4	31.4
	November	172.6	128.5	70.9	48.3	41.1	35.2
	December	178.2	131.9	73.6	48.1	40.8	41.0
1983	January	175.0	136.5	75.3	48.7	38.4	38.7

a. Rates are expressed in current Worldscale for each month.

b. AFRA for each month is awarded on the first of the month and includes fixtures reported up to the middle of the previous month. AFRA is compiled by the London Tanker Brokers Panel.

Source: *Shipping Statistics and Economics*, H.P. Drewy (Shipping Consultants) Ltd., London, January 1983.

100 base rates as a guide in their negotiations over actual freight rates.

Assume, for example, a Worldscale 100 rate of $16.85 for a voyage between Ras Tanura in the Persian Gulf and Yokohama. If a tanker owner and a charterer agree to a rate of Worldscale 40 for this route, the charterer would be agreeing to pay the ship owner 40 percent of $16.85, or $6.74 per long ton to transport a specific cargo from Ras Tanura to Yokohama. Worldscale rates generally vary inversely with the size of the vessel to reflect economies of scale, subject to demand and supply considerations in the various ship size classes.

In the construction of the Worldscale base rate for a specific route, the Worldscale organization uses the operating characteristics of a standard vessel of 19,500 dwt. Calculations are based on a round-trip voyage by this vessel, including loading in one port, discharging in a second port, and returning in ballast to the first port. Following is a brief description of the methodology employed to arrive at Worldscale rates:

1. The round-trip voyage distance is obtained from standard reference tables, such as the British Petroleum Shipping Atlas;
2. The voyage distance is divided by the standard vessel average service speed (14 knots) to obtain the steaming time in hours, which is then converted to days;
3. Fuel consumption is then calculated:

   (Steaming days x 28 tons/days) +
   (Port time allowance x 5 tons/days);
4. Total fuel consumption is multiplied by coverage of bunker price as of a certain date to obtain total fuel costs;

5. Fixed hire costs are obtained by multiplying total voyage days (steaming days plus port time) by $1,800 per day;

6. Applicable port charges are added to (4) and (5) to obtain net voyage costs to which 2.5 percent of this total is added for brokerage commissions to obtain gross voyage costs; and

7. Gross voyage costs are divided by the summer deadweight (19,500 tons) to obtain a freight rate, which is then designated Worldscale 100.

U.S. Rates

Although a mechanism similar to Worldscale exists for determining rates on American flag vessels (American Tanker Rate Schedule), there is no U.S. measure comparable to AFRA. Since virtually all vessels employed in the Alaskan oil cargo trade are engaged on time charter, the U.S. flag freight rate used in this report has been based on the operating characteristics of typical vessels employed in the Alaskan trade and on current average time charter rates for such vessels. The calculations are presented in Table B-2.

Table B-2. Calculation of U.S. Flag Rate for Valdez-Houston

The Alaskan/Panama Leg

As the typical vessel, we are taking the 182,000 dwt[1] class at a rate of $9.00/dwt/month. Marginal costs will be well below the average, since incremental tonnage is provided from the subsidized VLCC fleet. Average transport costs to Panama are as follows:

T/c[2] Hire 182,000 dwt @ $9/dwt/mo. (11.5 mos. of operation)	=	$18,837,000
Fuel 150 tons/day steaming + 150t in port @ $155/ton 26 days/voy. steaming + 4 days in port	=	7,345,000
Port charges ($30,000 x 11.7 voyages)	=	351,000
Miscellaneous		35,000
Total		$26,568,000

Given a speed of 15 knots, the vessel would require 26 days at sea, including 1/2 day for reserve. Port time is projected to be 4 days, resulting in 11.7 voyages/year. At a 96 percent load factor, the ship would lift 175,000 tons/trip or 2,047,500 tons/year equal to 14,742,000 barrels.

The average transport cost would be $1.80/barrel to Panama.

Annual Cost	$26,568,000
Annual Lift	14,742,000 bbls.
Cost/bbl.	$1.80

Panama Pipeline Tariff

On average, these costs are about $0.95/bbl.

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[1] Dwt means deadweight tons.

[2] T/c means time charter.

Continued --

Table B-2 (Continued).

Canal Transit Vessels

Here there are many more chartered vessels involved, with the average size about 62,000 dwt. Again, we assume a normal operation. The average charter rate now has dropped to $12.50/dwt/month.

T/c hire @ $12.50/dwt/mo. (11.5 mos. of operation)	$8,913,000
Fuel @ $141 (95 t/d steam) (95 tons in port)	3,705,000
Port charges ($10,000/trip)	292,000
Miscellaneous	35,000
	$12,945,000

Annual lift = 59,520 tons x 29.2 voyages/year or
1,737,984 tons
(12,513,485 bbls.)

Voyage time: 4 days lift and discharge
8 days steaming

Total costs	$12,945,000
Total lift	12,513,485
Cost/bbl.	$ 1.03

Total cost = $1.80 + $.95 + $1.03 = $3.78/bbl.

Source: Based on industry data.

APPENDIX C. THE EFFECTS OF ALASKAN OIL EXPORTS ON THE DOMESTIC MARITIME INDUSTRY

The export of Alaskan oil will cause adverse impacts on the U.S. domestic maritime industry. The severity of the impacts will be determined in part by the volume of oil exports and the pace at which they grow. For the analysis in this appendix, as throughout this report, it is estimated that oil exports will increase over a five-year period to an average level of about 300,000 b/d. However, even with the specification of the volume and growth of oil exports, the effects on the domestic maritime industry cannot be estimated with precision. Nonetheless, the nature of the effects and their order of magnitude can be determined. The purpose of this appendix is to describe these effects and the basis on which they are estimated.[1]

Of the 10.9 million tons of capacity represented by the Jones Act unsubsidized or domestic tanker fleet, 57 percent is engaged in the Alaskan crude oil trade.[2] This number includes about 2.0 million tons involved in the Valdez-West Coast trade; 2.5 million tons involved in the Valdez-Panama trade; and 1.7 million tons involved in the Panama-Gulf of Mexico trade. In all, approximately 70 tankers are involved.

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[1] Information used in this analysis was obtained from a variety of sources, including trade literature, MARAD, industry representatives, the Bureau of Labor Statistics, and the Department of Energy.

[2] The Jones Act regulates U.S. coastwise trade. Vessels employed in that trade, which comprise approximately 50 percent of the total U.S. maritime fleet, operate without subsidy. U.S. flag vessels plying the international trades receive construction and operating subsidies.

Prior to the passage of the Trans-Alaska Pipeline Act of 1973, which prohibited the export of ANS crude, many of these tankers did not exist. Since 1970, 75 new or newly rebuilt ships, representing increased capacity of 6.2 million tons, have been added. Of these, more than three-fourths were delivered after 1973. Total investment in these ships, nearly all of which were built for the shipment of Alaskan crude oil, exceeds some $4.0 billion in 1980 dollars. In addition, 10 ships with a combined capacity of 554,300 dwt remain on order. These ships, which would have been neither ordered nor built but for the Alaskan crude oil trade, will come on stream in 1983 and 1984 at an estimated delivered cost of $0.8 billion.[1]

Among the characteristics of the domestic tanker fleet engaged in the Alaskan crude oil trade, two are of particular relevance to the assessment of impacts. One characteristic is the division or distinction of ownership of vessels between those owned by the oil companies (referred to here as proprietary vessels) and those owned by the independent shipping companies. The impact of Alaskan oil exports would fall most directly on the independent shipping companies, since it is expected that the proprietary vessels would be the last to be removed from the trade. Adjustments that would occur in the domestic tanker industry would therefore fall disproportionately on the independent vessels. This distinguishing characteristic would also influence the

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1. Tanker Register 1981, supplemented by MARAD data.

shipping rates for those vessels remaining in the Alaskan oil trade after exports occur; with the shipping rates on proprietary vessels in effect being internal transfer prices of the oil companies, it is difficult to anticipate what changes would occur in these shipping rates.

The other characteristic is the fairly clear demarcation between the Pacific segment or basin (Valdez to West Coast and Panama) and the Atlantic basin (Panama to U.S. Gulf Coast). With different vessel characteristics in these two segments of the trade, adjustments with exports may vary. For example, because of the smaller vessels in the Atlantic basin, more vessels would be idled as a consequence of exports. Whether vessels displaced in the Pacific basin would shift to the Atlantic basin depends on numerous factors and therefore cannot be readily determined. Some adjustment has already occurred in the Atlantic basin with the continued decline of oil products shipments[1] and, particularly, the opening of the Trans-Panama pipeline in October 1982. This adjustment has been reflected in surplus tanker tonnage, the idling of older and smaller tankers, and a decline in shipping rates. From mid-1981 to early 1983, for example, the average time charter rate for a 50,000 ton vessel has fallen from \$16.00/dwt/month to \$12.50/dwt/month.[2]

Impact on Independent Shipping Company Revenues

The export of Alaskan crude oil would reduce the revenues of the independent shipping companies in two ways: by the idling of vessels and by the decline in shipping rates on those vessels which remain in the trade. Both consequences would occur over a period of about two years as existing time charter agreements (generally for a period of one or two years) expire.

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[1] Between 1977 and 1981 (the last year for which complete data are available), the shipment of crude and products by tanker from the U.S. Gulf to East Coast has declined each year, with a cumulative decline of 37 percent. Annual Energy Data Reports, Department of Energy.

[2] Refer to Appendix B on shipping rates.

The export of 300,000 b/d would reduce demand for tankers by about 2.1 million dwt: 1.4 million dwt in the Pacific and 700,000 dwt in the Atlantic. For the reasons discussed earlier in this report, it is expected that the proprietary ships would be retained in the trade by the oil companies, so that the vessels idled (in surplus) would be predominantly, if not exclusively, independent shipping company vessels. In the Pacific basin, it is estimated that nine vessels would be idled, with 16 vessels estimated to be idled in the Atlantic basin. The exact number of vessels to be idled would depend on several factors but the combined total of 25 is judged to be a reasonable estimate.

The idling of these vessels would result in foregone revenues by the independent shipping companies of approximately $245 million annually, as shown in Table C-1. These vessels would be idled because alternative opportunities do not exist under current market conditions in either the domestic or the international cargo trades. Since U.S. operating and building costs are significantly higher than those of foreign ships, U.S. tankers are unable to compete in the international market without subsidies. Present market conditions make participation in the international market difficult, if not impossible, even with subsidies: so depressed are international markets that several large U.S. tankers built with construction differential subsidies for the international trade have requested and received waivers permitting them to operate in Alaska. The international market clearly does not present an alternative market for ships idled in the Alaskan trade.

Table C-1. Annual Revenue Lost Due to Idled Vessels

	Pacific Basin	Atlantic Basin	Total
Number of vessels	9	16	25
Tonnage (thousand of dwt)	1,400	700	2,100
Shipping rate ($/dwt/month)	$9.00[a]	$12.50[b]	--
Lost revenue (millions of dollars)[c]	$145	$101	$246

a. Vessel of 120,000 dwt.
b. Vessel of 50,000 dwt.
c. Based on 11.5 month year.

Marginal revenues for these vessels might be earned through other means, such as floating storage units, resale on the international market, or through scrapping. Neither of the first two avenues would likely be viable in the present market conditions, while the net value for scrapping would be so small that estimates of revenue have not been calculated.

There would also be a loss of revenue to the independent shipping companies as the shipping rates fall for the remaining vessels in the Alaskan trade. Though the extent of the potential decline in shipping rates can only be approximated, they would likely be equivalent to the vessel operating costs (or variable costs) of the smallest size vessel remaining in the trade. These are expected to be a 120,000 dwt tanker in the Pacific basin and a 50,000 dwt tanker in the Atlantic basin. Current vessel operating costs are estimated to be approximately $16,000 and $14,000 per day, respectively. These are equivalent to $4.00/dwt/month for the larger tanker and $7.00/dwt/month for the smaller tanker (the latter based on a 60,000 dwt vessel). To illustrate the revenue effect, slightly higher time charter rates are used (see Table C-2). The revenue lost from the effect of lower rates would be about $80 million annually, as summarized in Table C-2.

Table C-2. Annual Revenue Losses Consequent to Decline in Shipping Rates

	Pacific Basin	Atlantic Basin	Total
Remaining independent vessels			
Number	5	9	14
Tonnage (thousands of dwt)	935	700	1,635
Decline in rate ($/dwt/month)[a]	$4.00	$4.50	--
Revenue loss (millions of dollars)[b]	$43	$36	$79

a. The difference between current average rates and new rates with exports.

b. Based on 11.5 month year.

The potential revenue losses of approximately $80 million annually shown in Table C-2 underestimate the revenue loss from declining rates because the effect on tankers in the non-Alaskan trade has not been incorporated in the revenue loss. Although the rates for these tankers have already fallen for reasons mentioned previously, some further decline would be likely as the surplus tonnage increases with the export of Alaskan oil. Because of the wide variation of tanker types engaged in non-Alaskan trade, the revenue effect on these tankers has not been calculated.

The lost revenues of approximately $80 million annually resulting from a decline in shipping rates are, of course, someone else's gain. Who would likely capture these lost revenues is difficult to determine, but the potential distribution would include the oil producers, refiners, the state of Alaska, the federal government, and, possibly, consumers.

The aggregate annual decline in independent shipping company revenues of $325 million (the combination of revenue losses owing to idled vessels and lower rates) would almost certainly cause significant changes in the financial structure and health of the independent shipping companies. Aside from other consequences which these changes might impose on the viability of the domestic maritime industry, federal government revenues would be adversely affected (as discussed later in this appendix).

Impact on Proprietary Shipping Revenues

The extent to which the shipping rates of proprietary ships would be affected by declining rates of the independent shipping companies is an interesting and relevant question for the overall analysis of the Alaskan oil export issue, but also a question for which an answer cannot be readily determined. Since the shipping rate on proprietary ships is essentially a transfer price within the oil companies (in effect an internal accounting matter), it is difficult to determine what actions these companies would take with respect to shipping rates. There is likely to be some downward movement and to the extent that the shipping rates for the proprietary ships fall, there would most likely be a corresponding increase in the wellhead price of Alaskan oil. This, in turn, would result in increased revenues for the state of Alaska and the federal government (with the revenue gains of the federal government in effect constituting the difference between regular corporate income tax rate and the windfall profits tax rate).

Impact on Employment

The export of Alaskan oil would also cause a reduction in employment, both in the maritime industry and in other sectors throughout the economy. The number of maritime jobs lost would depend on the number and size composition of vessels idled as a result of exports. With an export level of 300,000 b/d and the estimated idling of 25 vessels, the direct employment losses in the maritime industry would be about 1,700.[1]

Employment losses would also be experienced in other sectors of the economy which supply intermediate goods to the shipping industry and as the ripple effect occurs as a result of the integrated nature of the economy and the multiplier effect. These secondary, or indirect, employment

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1. In Robert R. Nathan Associates' October 1981 study on the Alaskan oil export issue, a detailed estimate of direct employment losses was made based on the idling of 44 tankers. That analysis revealed employment losses of about 3,000 (compared to an estimate of 3,300 made by MARAD). The average employment losses per tanker from the earlier analysis have been used to derive the direct employment losses for the present analysis.

losses are estimated to be about 7,000.[1] Exports of oil would not generate new employment opportunities to offset these employment losses.

It is recognized that over time some of the employment losses would be mitigated as unemployed maritime and other workers relocate and find alternative employment opportunities. However, to the extent current high unemployment rates persist, this adjustment process would be slowed.

Impact on Federal Government Revenue

The substantial financial impact on the independent shipping companies resulting from lost revenues caused by the idling of vessels and lower shipping rates would, in turn, cause federal government revenue to fall. The losses in federal government revenue would be in the form of Title XI loan guarantee defaults and reduced corporate income tax payments from the shipping companies.

Title XI loan guarantees for petroleum tankers are approximately $1.5 billion. The proportion of these guarantees potentially at risk is estimated to be on the order of $850 million. The proportion of Title XI loan guarantees which would be in default following exports is difficult to estimate since it would depend on vessel ownership and the financial structure and internal decision-making of each shipping company affected. However, it is unlikely that

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1. For the water transportation sector generally, approximately 30 jobs are required in all other sectors of the U.S. economy for every $1.0 million of final product (Employment Inverse 1979, Bureau of Labor Statistics). Using this figure and the fall in output of $246 million (Table C-1), the indirect employment losses would be 7,380.

shipping companies would want or could afford to continue carrying the loan payments on vessels permanently idled or expected to be idled for an extended period of time. It is not unreasonable to expect, therefore, that at least one-half of the $850 million at risk would result in defaults, causing the federal government to meet these obligations.[1]

Federal tax revenues would also be adversely affected by reduced tax payments from the maritime industry. Since both pre-tax profits and tax rates of shipping companies are proprietary information, the magnitude of this revenue loss cannot be determined readily. It is clear, however, that corporate income taxes from the maritime industry would decline sharply, if not be eliminated altogether. If the latter occurred, based on industry sources, the federal revenue loss would be at least $35-40 million annually. Recovery of previous taxes paid (through carry-back loss provisions) would also result in federal revenue losses, estimated by one firm to be about $30 million for itself and $100 million for the industry as a whole.

Impact on Gross National Product

The reduction in final product in the domestic maritime industry as a result of the idling of vessels will also have a macroeconomic effect by reducing the U.S. gross national product (GNP). The effect of a reduction in final output in the shipping sector would not be limited to that sector but would affect the entire economy as a result of the integrated nature of the economy. The effects of the export of Alaskan crude oil would first be felt in the shipping sector and in those sectors providing intermediate inputs to that sector. The total value of the respective value-added provided by each of these is given by the value of final output in the shipping sector itself. Thus, gross national product would fall by the change in final shipping output, or $246 million annually (see Table C-1).[1] The GNP loss would be even greater when the derived demand effects are also taken into account. With a fall in household income -- owing to unemployment effects -- the demand for goods and services consumed by households would fall, causing further declines in the production of goods and services. This impact on GNP has not been estimated.

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[1] Private non-Title XI loans for domestic tankers are estimated to be about $500 million. To the extent that default also occurs on some of these loans, there will be additional federal revenue losses as the holders of these loans write off the losses against income, thus reducing tax payments.

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[1] An alternative approach to approximating the loss of domestic goods and services, or GNP, is to multiply the balance-of-payments loss of $218 million, which essentially represents the direct outflow of resources from the domestic shipping industry, by the factor which represents the indirect effects throughout the economy. Using a multiplier of 2.03, which is the factor for all waterborne transportation, results in a GNP loss of $436 million.

Senator **Murkowski**. Thank you very much, Mr. Beyer.

Would you, for the record, indicate the firm that has retained you for the submission of your report?

Mr. **Beyer**. Yes. The study and analysis was sponsored by the American Maritime Association.

Senator **Murkowski**. Thank you.

In that particular report, was there any consideration given to the premise that oil might be moved in U.S. bottoms?

Mr. **Beyer**. In that report, no, but I have looked at the question since the question has been brought to my attention by others, and I do have some analysis related to that.

Senator **Murkowski**. I would appreciate it if you would share that with the committee, because I think it is pertinent.

Mr. **Beyer**. Essentially—and I am looking at this in terms of what the effects both in financial and economic terms would be on the United States—essentially looking at this in the economic and financial dimensions rather than suggesting that it is a positive or negative approach to the issues at hand, if we are assuming exports, as we did, at 300,000 barrels per day—and the analysis has been done for a lower level as well, but it is useful then for comparison—what we find essentially is that the financial impacts that I have discussed would still occur on a positive basis for the State of Alaska and the Federal Government and the oil producers, but clearly to a smaller extent.

But they would still be positive. The question of whether west coast consumers would be affected by the increase in the cost of transportation with the Jones Act vessels in transporting oil from Valdez to Japan is less certain, but I think it is still a potential impact and, therefore, that financial consequence would probably still loom in terms of the impact adversely.

With respect to the financial effect on the maritime industry, that would clearly be reduced compared to the estimates that we have made, but there still would be some adverse effect on the industry as a consequence of some reduction in tonnage, by our estimates approximately 400,000 deadweight tons—excuse me, still 700,000 deadweight tons in the Atlantic basin and the same quantity value of volume of ships that we have estimated in our report would be effected in the Atlantic or gulf.

In the Pacific basin, approximately 300,000 deadweight tons, a smaller impact clearly on the domestic maritime industry, but still there would be some adverse financial impact.

Senator **Murkowski**. In the Pacific, is it because you are basically taking the oil a lesser distance?

Mr. **Beyer**. Yes. It is because of reduced distances, yes.

Senator **Murkowski**. Do you have any indication as to the average age of the ships that are involved in the movement from the Atlantic Isthmus throughout the gulf and the east coast as opposed to the ships that operate in the Pacific?

Mr. **Beyer**. I do not have those figures immediately at hand. They are available, sitting back in my office, because we do have a complete census, so to speak, by vessel, its age.

Senator **Murkowski**. I would appreciate it, if it is in within the scope of your study that has been submitted to provide the committee with figures relative to the age and contemplated disposition of those vessels, particularly those that are involved in the carriage from the Atlantic Isthmus and what the average life of a ship is, and whether those ships will be eventually replaced with more labor-saving type capability.

It is my understanding that those ships are, some of them, pretty old.

Mr. **Beyer**. First let me say I would be glad to respond with that information. As I recall from a review of that information, it is that the average age for the tanker fleet in the U.S. gulf movement is probably in the area of 20, 25 years of age.

But let me also mention in saying that that there has been substantial investments in certain of the medium to larger size of those vessels over the past years to in effect extend their useful life. So simply looking at the actual age sometimes can be misleading.

There has been substantial rebuilding of the U.S. tanker fleet, not only the smaller vessels but also those that have a larger capacity as well.

Senator **Murkowski**. You commented on a point that is of great concern with regard to just what are the proven economic recoverable resources of the Arctic area. It is my understanding that the National Petroleum Council indicates recoverable reserves in the Alaskan Arctic at about 24 billion barrels, of which Prudhoe Bay recoverable reserves were originally estimated at 9 billion.

Then the question of whether the technological advances to tap the Cape Lisburne zone and other areas in Alaska will or will not become a reality is obviously anybody's guess, and there are those that have a great deal more knowledge than others. But I wonder if you are familiar with the National Petroleum Council's estimate on recoverable reserves.

Mr. **Beyer**. I have seen it. Yes, I have, sir.

Senator **Murkowski**. Do you have any comment on whether you think it is reasonable or unreasonable?

Mr. **Beyer**. Well, this gets into an area of geology and related aspects that I think are beyond my immediate expertise. What I have seen is, I think, suggestive of the long-term outlook for Alaska, are the projections the producers and the State government of Alaska are using as a basis for their decisionmaking, incorporating not only existing production but their likely development of other reserves.

And all of those projections point in the same direction, downward after the mid-1980's.

Senator **Murkowski**. Well, I suppose time will tell whether significantly more oil is going to come down from Alaska. I note that currently the oil companies are expending about $4 billion this year for development in Alaska, and the sealift this year will be the second largest, this is the largest, that are brought up in association with primary recovery efforts within the existing field.

But, in any event, I think that is certainly going to be a key in the question of whether or not we are going to have a continued surplus of oil on the west coast.

I wonder if you might, from your recollection, comment on why the experts missed so dramatically the estimate on just what the west coast surplus would be. It is my understanding at the present time that the pipeline through the Isthmus is not averaging 500,000 barrels but has on many occasions been 800,000 barrels or more, which indicates that nearly half the oil is finding its way into the east coast market.

Now we all know that the Northern Tier Pipeline was contemplated and that apparently is no longer a reality. But even though we seem to be generating this surplus and there is reason to believe that with the finds in California off Santa Barbara that those would be coming into the market within the next couple of years, and that could very possibly seem to indicate even if we do not find further oil reserves in Alaska that the status of surplus is going to be contrary to what you had suggested, but growing.

There is no prohibition to export crude, say, from California. Would you propose that we export crude from California and send it by Alaska and then run the Alaskan crude in its current rather lengthy route?

Mr. BEYER. There are a number of questions there in your comments, Senator. If I could, let me deal with them one at a time.

First, why have individuals in the past missed the mark in estimating what the surplus would be on the west coast? I think if we look back in fact some of these estimates are, frankly, pretty close. There was one major event that occurred in the intervening period, and that was the 1979 price increase, which had a very dramatic effect in two respects.

One, it increased Alaskan production dramatically, I should not say dramatically, but by maybe 200,000 to 300,000 barrels over what had been expected because of a very significant increase in world market prices of oil. The other was that the same prices caused very genuine conservation requirements in California which reduced the demand in the west coast for petroleum and petroleum products.

But on the whole the estimates have been reasonably accurate, with the exception of that one major, very difficult event to anticipate.

What is the future going to look like? That surplus, as we refer to it, may in fact increase, but it is going to be a very modest increase and possibly no more than 100,000 to 150,000 barrels per day, even taking into account likely increases in offshore production in California, which in fact are not really going to be reaching their peak until the middle part of this decade.

The question of what to do with California production is a separate issue, it seems to me, but at this point basically the production decisions of the oil producers do not seem to be hampered by any issue of whether or not they will be permitted to export California production.

Senator MURKOWSKI. In your report you state that if exports were permitted, and you indicated 300,000 barrels a day in your report, the bulk of that volume would consist of the projected total annual average amount of Alaska's State royalty oil, or about 280,000 barrels of oil a day, I think it is.

Are you not aware that the State, by statute must first satisfy all in-State needs for oil before allowing it to be shipped outside and that of the 200,000 barrels of royalty oil produced, there is only about 70,000 barrels that are presently uncommitted in the State?

Mr. BEYER. I am aware of that, and in making that estimate royalty oil would be the first to be exported, and the quantity of 225,000 barrels was based, and probably unstated in the report, on the premise that if it was in the interest of the State of Alaska financially to export its royalty oil rather than to gain the income simply through severance and income tax and there is a clear advantage in it for the State of Alaska to do that, that it would change existing legislation because it still would have access to crude production regardless of whether the legislation was on the books or not.

Even if in fact the State of Alaska exported no royalty oil, the total financial gains as a result do not change. What does change is the distribution of those gains between the State of Alaska, the Federal Government, and the producers. Again, I do have those estimates and I would be pleased to submit them to you later to show what the effects would be both for your benefit and for the State of Alaska.

Senator MURKOWSKI. We would appreciate that, Mr. Beyer.

In what manner did you determine that the Japanese would extract price concessions, I think you said equal to 25 percent of the transportation savings from North Slope producers? Are you aware that the State requires that a premium price be paid for its sales?

Mr. BEYER. Well, if the State does require that, then there would be a very interesting negotiating session involving the State of Alaska and Japan, because what led us to the conclusion that there would be some capturing, if you will, of the transportation savings by Japan was the fact that they are clearly in a strong negotiating position.

Exactly how much they would be able to capture is difficult to predict, but it seemed to us that 25 percent was a reasonable estimate, at least to indicate orders of magnitude. I would be surprised, frankly, if left to the private purchasers and not to the Government of Japan, but the private purchasers, refiners essentially, in Japan that they would not be attempting to and probably quite successful in being able to capture some of this because they have numerous alternative sources of crude which they can readily move to, and the alternatives for Alaskan crude, as we know, are limited.

Senator MURKOWSKI. We talked a little bit about the west coast discount. You seemed to indicate that you feel there is a significant one. Others have indicated that it is less than significant or very, very hard to specifically recognize. I am wondering, in your opinion, if in fact there is a west coast discount.

Why would a profit-oriented producer or refiner pass on that savings of a few cents a gallon to gain a market share which has been done?

Mr. BEYER. Well, first let me respond in two respects. First, based on the data from the State Revenue Department of Alaska, which is in turn based on the prices reported by the oil producers to the State government, if one looks over the last 2 years on a month-by-month basis there is approximately a $2 difference.

So whatever the cause, the fact remains that there is a $2 difference, approximately, per barrel for Alaskan crude sold on the west coast compared to that same barrel sold on the gulf coast. The reason why this difference occurs is probably several-fold.

One of them is just due to what might be called the international alternative, but the basic reason is that because of the surplus and because there is an opportunity or, I am sorry, a need for the shipper to ship the increment above and beyond west coast requirements through to the gulf, thereby incurring higher transportation costs, the west coast refiners understand that and are going to be able to extract a discount, as it were, for those additional transportation costs that the producers would have to incur.

Whatever the reasons, the fact is that there is a difference in price of approximately $2 per barrel and there is the potential that part of that difference could be reduced as a consequence of exports, and to the extent that it does, then west coast consumers would be incurring higher prices for the petroleum products.

Senator MURKOWSKI. Do you see any correlation between the exportation of Alaskan oil and the creation of jobs in other energy-related fields from Arctic Alaska, such as gas and coal?

Mr. BEYER. First, there is, in my judgment, no causal relationship between the export of Alaskan crude oil and the potential to export from Alaska either LNG or coal. The export of LNG and coal, whether to Japan or other Pacific rim countries, is essentially an independent decision process not related to whether or not we export oil.

Clearly, to the extent that coal could be exported I would presume that there would be substantial employment opportunities. LNG being essentially a capital-intensive industry, employment gains would be very small. In terms of oil, there could be small employment gains if incremental production in Alaska attributed to exports were to occur.

I have not attempted to estimate that, but it would be whatever employment would be associated with our estimate of about 40,000 to 80,000 barrels per day of additional production, assuming again a direct causal relationship between that increase in wellhead price and increased production.

Senator MURKOWSKI. You do not see any relationship over the fact that we have been prohibited by three Federal laws from exporting oil outside the State of Alaska to foreign countries and the reality of following with gas and coal, both of which have tremendous potential but the infrastructure is not established nor have the markets developed—not that there are not markets.

There are markets in the Pacific rim, but if you cannot get the one you are already producing, what are the odds of getting the other; namely coal and gas? It would seem that if you in effect look at the realities of the dictates of transportation, the proximity of Mexico to the gulf, recognizing that we are already importing about 50 percent of Mexico's crude oil production, it would seem at least to the layman rather obvious that substantial gains could be made from the standpoint of the consumers to reduce transportation costs by Alaska oil finding its way into the markets in the Pacific rim and picking up additional oil from Mexico, going back to the traditional Yankee trader type of free worldwide competition, which theoretically would expand the economic base and result in prosperity on a broader base.

You stated, in your opinion, there is no connection between oil and gas and coal. But, recognizing the excess of crude on the west coast and the geographic realities of the Pacific rim, and its proximity, I wonder if it is in our national interest, in the interest of our long-term economic health, including employment and so forth, to have this rather gerrymandered effort of transporting resources.

Mr. **BEYER**. There are several comments there that I could respond to.

Senator **MURKOWSKI**. Well, I could go on and on. You are entitled to do the same.

Mr. **BEYER**. Let me just address one or two of those. First let me mention that the question of the source of replacement oil that might occur as a result of exports is most likely going to be Persian Gulf rather than Mexico.

Senator **MURKOWSKI**. Why do you say "most likely"—it is further away, more expensive, and we have already set a pattern?

Mr. **BEYER**. Not at all, sir. The reason is because Mexican production and export capacity is limited and also because Mexican export policy is very clear. And this has been reiterated over two administrations in Mexico now, and that is that they do not want to exceed a dependency, as they see it, on one market greater than 50 percent of their total exports, and we have approached that, in fact, and probably now exceed it as a result of the special $1 billion loan and SPR exchange.

Senator **MURKOWSKI**. I am aware of the SPR and they were very happy to sell into the SPR.

Mr. **BEYER**. In that particular emergency circumstance, they were, yes. But it is quite clear that it has approached a level of 50 percent.

But let us assume even for a moment that Mexico were the source of replacement crude and could conceivably be part of it. The financial and economic impacts basically do not change very much because the price of Mexican crude, once we take into account quality differences, would still be priced on the basis in Houston or New Orleans on Saudi light marker because that is the dominant crude.

Therefore, what is—and again I have gone through an analysis and I would be glad to share that with the committee through a written comment of what would be the effects if in fact Mexico were the replacement source—very little change, as a matter of fact, in terms of most of the financial and economic effects, because, finally, ultimately, the price that we would pay is going to be determined by what the price would be in Houston for Saudi light, including the transportation cost from Saudi Arabia.

Senator **MURKOWSKI**. That was not the basis of the negotiation of the SPR purchase.

Mr. **BEYER**. No, that was under a very special arrangement, specifically, and I think we are all aware that there were a number of special extenuating circumstances, both on the part of the United States and Mexico.

Senator **MURKOWSKI**. You think those special extenuating circumstances may have come up to a threshold in view of the significant investment which the United States has in Mexico and the concern to stabilize that investment by becoming a closer trade partner with Mexico, which might result in the necessity of pursuing further purchases of crude oil from Mexico to insure that that relationship is maintained and followed, because obviously the way you pay your debts is to sell a commodity?

Mr. **Beyer**. I think that part of the overall economic relationship with Mexico could well involve energy. It is not only a question of incremental imports of oil, assuming again that Mexico is prepared to increase its dependency on the U.S. market, but other aspects too—natural gas imports, which have been the subject of considerable discussion, and the United States not always in the most receptive mind on that matter.

And we, I think, are familiar with the rather drawn out negotiations that occurred on natural gas imports. There are a lot dimensions to economic relationships with Mexico that are very crucial. I would place the oil question with Mexico in the overall relationship as a very modest and insignificant one. It is still a factor.

Senator **Murkowski**. What in your studies as a consultant do you feel is a pretty fair return on investment?

Mr. **Beyer**. It depends, of course, on the risk that is involved in the industry concerned.

Senator **Murkowski**. Well, the oil industry is obviously a high risk area.

Mr. **Beyer**. It is a high risk area, and as a consequence the return depends on how one measures the investment and the return, but the returns are probably generally on the order of 15 percent or higher.

Senator **Murkowski**. And your comment with regard to the 12-percent increase in after-tax earnings on new field production in Alaska, I think it was the figure that you gave, you do not believe that that kind of a percentage is a necessary incentive for extended exploration?

Mr. **Beyer**. It could be part of the overall decision.

Senator **Murkowski**. That is a pretty fair return if you know it is going to be there.

Mr. **Beyer**. That is correct, but let me state as well the whole environment. This is but one factor that dominates the decisionmaking. But in the context of Alaska, and again I think this is important, is the time dimension involved in the production of new oil, and if the leadtime is 7 or 8 years and yet we know that the window on exports is likely to be only 7 to 10 years, whether producers will be prepared to make a long-term commitment in investment without knowing whether that export market will be there is probably a very debatable point.

Therefore, I do not see a direct casual relationship, Mr. Chairman, between that incremental return and increased exploration and development. But even if it did occur, the maximum that we see, depending upon the estimates used, is in the range of 40,000 barrels per day to about 80,000 barrels per day, and of course at some distant point in the future.

And that is not to dismiss that that is insignificant or unimportant. I am just saying that if there were causal effect, and I think except for one other organization analyst who has looked at this, we are the only institution that has attempted to quantify what the effect would be on Alaskan production.

There is a lot of discussion about the benefits that would come in exploration and development but very little in the way of attempting to measure or anticipate what those changes would be.

Senator **Murkowski.** I want to thank you for your testimony. There is one area that does disturb me, and I do not know the answer. Again, you suggested that gas and oil, there was in effect a distinct and separate consideration on the development of one or the other, but obviously when you go out to find oil you find a lot of gas. The reverse is true. When you are out looking for gas, you are going to find some oil.

It is estimated that we have 26 trillion cubic feet of gas in Prudhoe Bay, and that is being reinjected because we do not know what else to do with it. If you go out and explore for more oil, why, as I said, you are going to find more gas, and they are going to explore for more. How much they are going to find and what that surplus is going to be, you and I will have an opportunity to have lunch on it some day.

Mr. **Beyer.** I hope so.

Senator **Murkowski.** I am told by my associate that the figure is about 180 trillion cubic feet potential of gas, and if they do build a line one place or the other to get that gas out of Alaska, whether you liquify it or move it down the other alternative, I cannot help but feel you are going to find more oil.

The last comment I have is that I think that at the present time the Secretary of Interior has indicated to at least the Senate Finance Committee that we are looking at some $7 or $8 billion of revenue to come from OCS sales, oil sales in Alaska, and if that does not become a reality, which is in the budget arithmetic, why you and I are not going to sleep any better, because that deficit is going to continue to creep up by the amount that our experts missed.

So I would hope that the surplus would be there and we will see what the realities will be as time goes on. I would invite you to submit anything further for the record or expand on the particular points that we did discuss, and I want to thank you for your very fair and balanced testimony, and wish you a very good afternoon.

Mr. **Beyer.** Thank you, Mr. Chairman.

Senator **Murkowski.** Thank you, Mr. Beyer.

Our last witness for the day is Mr. William W. Hogan of Putnam, Hayes & Bartlett, Inc., Cambridge, Mass. Mr. Hogan—I believe it is Dr. Hogan, we welcome you to the committee and express our appreciation for your patience in being the last member to present a paper.

Hopefully, we will not have another vote before you are finished. I would ask that you proceed with your testimony and welcome to the committee.

STATEMENT OF WILLIAM W. HOGAN, PUTNAM, HAYES & BARTLETT, INC., CAMBRIDGE, MASS.

Mr. **Hogan.** Thank you, Mr. Chairman. It is a pleasure for me to be here this afternoon.

As you mentioned, I have prepared written testimony, which, with your permission, I will submit for the record and spare the assembled group the difficulty of reading through it all. Today I will try to summarize the main highlights that seem relevant to the issues being discussed here.

Senator MURKOWSKI. Happy to accommodate you, Dr. Hogan.

Mr. HOGAN. As I mentioned in my written testimony, some colleagues and I who have been interested in problems of energy policy and energy security for a number of years had occasion recently to prepare a report on the subject of the export of Alaska crude oil, and an analysis of economic and national security benefits associated with export.

The study contains the details of my conclusions. I have provided a copy of the full report to submit for the record, and for your use as well.[1]

The principal conclusions of that study relate to the national interest in allowing export of Alaskan crude oil. The details are, granted, complex and involve issues of economic analysis, of financial accounting, the difficulties of dealing with vertically integrated firms, and the effect on wellhead prices of changes in downstream markets.

But I think that the essential truth is quite simple and has been agreed upon by most of the witnesses here today. That essential truth is that the Rube Goldberg operation of taking oil from Valdez down to the Panama Canal, offloading it, sending it through a pipeline, loading it again and then sending it around to the Gulf of Mexico is a far more inefficient and expensive process than sending the oil to its natural markets in the Pacific rim.

Although there could be some disagreement on the precise figures, the economic costs of sending Alaska oil through Panama are in the range of $1.50 to $2 per barrel, after removing all the financial problems of excess monopoly profits, transfer payments and the like. We make fairly conservative assumptions in the analysis of what those costs were.

If we did not have a limit on the export and we allowed free market exports from Alaska, we think that Alaska exports might rise to as much as 500,000 barrels per day. We came to this conclusion by examining the institutional problems mentioned earlier. The rules of the game did specify heavy investments in tankers and other facilities, and we assumed that the companies that made those investments will continue to ship their oil to the gulf coast or to the west coast because of the economic incentive that has been created for them.

In addition, we assumed that the contracts on the Northville pipeline across the Panama Canal would be honored and, therefore, any changes in the distribution of Alaska oil would have to wait until those take-or-pay contracts had run their course.

But even with these changes over time, by the middle of this decade we would see some oil companies who wish to export Alaska oil. Oil companies which do not own their own ships and which do not have their own refineries downstream—that creates a necessity for them to control their own crude supply—would probably turn to the export market as the most attractive opportunity, and this is where we get to the figure of as much as 500,000 barrels per day.

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[1] See page 145.

The total cost to the Nation of the export ban is about $2.4 billion over a 10-year period. This cost results because we forego the transportation savings illustrated in the previous discussions. This is a real loss, real resources foregone because of the failure to capture those transportation savings.

Now that is a pretty simple point, and I do not think it requires too much elaboration. It is a straightforward argument that has been agreed to in its broader principles.

The more complicated questions seem to be in dealing with issues of security, energy security, and questions of the allocations of those costs between the various winners and losers. Let me try to emphasize these issues in my summary remarks.

Mr. Chairman, you have already noted the anomaly of exporting petroleum products but having a ban on the export of crude oil, and this inconsistency on policy is strange indeed, but it does probably arise because of confusion over the role of oil in energy security.

The ban on Alaska oil exports arose at a time when there was a great deal of concern about energy security and reliability of supply. It arose at a time when as a matter of national policy we thought it might be possible to insulate ourselves from world markets.

The experience of 1973 and 1974, and again the experience of 1979, with major disruptions in the world market, demonstrated conclusively that this insulation is just not possible. Oil is traded in world oil markets. When there is an interruption and or change in the availability of supply anywhere in the world, it propagates through those world markets and is manifested as changes in prices and reallocation of supply. What happens in the world market affects everyone.

As a practical matter, it is not possible to insulate yourself through the narrow arguments of energy security. What is more important is the cooperation among the various oil-consuming nations to avoid the kinds of disruptions that have occurred in the past and to make sure that panic does not set in, as it did in 1979 when the Japanese and others were out bidding ferociously in order to get the newly scarce oil supplies.

In order to prevent this panic problem, the United States and other consuming countries, through the International Energy Agency, have entered into formal agreements to share their oil during times of emergencies. The United States would be a net donor to that system in sharing the oil. So we have the strange situation, as you mentioned yourself, of agreeing to share during times of emergency but refusing to share the oil during times of peace and when it is in our own economic interest to do so.

It is not surprising, therefore, that you can speculate that there is a great deal of skepticism in Japan and other consuming countries about our sincerity to deliver during these energy emergencies, and I think that has cost us dearly in the past and will cost us again when future disruptions occur in the oil markets.

In addition, when you take the broader view of national security, as was mentioned by Ambassador Ingersoll, and consider broader foreign policy and trade questions, security in the military sense, problems in the Pacific rim and the sharing of that burden with the Japanese, it seems foolish for us to take such a narrow view and to isolate them from an attractive source of supply, a diverse source of supply, and a secure source of supply from Alaska.

The national security arguments have been turned on their head in this debate. Our security would be improved by allowing export of Alaska oil.

In terms of the effect on economics and U.S. consumers, I think that the basic line of argument about the fungibility of the world oil market carries over into the economics of prices for consumers. As has been mentioned several times, the marginal source of supply is viewed as the Persian Gulf oil.

The Persian Gulf oil establishes the world market price and, after accounting for transportation and quality differentials, establishes the price of petroleum products. This situation is true today. It would also be true the day after we lift the export ban on Alaska oil. Lifting the export ban would have no impact on consumers. It would only reallocate the benefits among the producers by way of tax effects and the transportation savings.

It is when we turn to this reallocation that we see where, in my judgment, the essence of this debate is. As not uncommon in such issues, the export of Alaska oil would result in the trading of benefits back and forth among various winners and the losers. This is where we get into the financial problems associated with accounting for transfer payments and the like.

The details of our estimates on the free market case compared to the export ban are fully explained in the report. What we see is that there is about a $5.7 billion loss that is flowing from Federal taxpayers, taxpayers in the State of Alaska, and oil companies through windfall profits, severance, and royalty payments and the like, as a result of the export ban. And there is a subsidy or a net benefit to the maritime industry of about $3.3 billion. The net loss to the country is the $2.4 billion figure that I mentioned. So the total payment of what we are transferring to the maritime industry is much greater than the net loss to the country. It is a very expensive way for us to subsidize that industry.

The magnitude of that subsidy and the importance it plays in the maritime trade is evidenced by an article which I noticed in the Boston Phoenix recently, where it was reported by a potential applicant that even Speaker O'Neill could not accomplish the highly desired feat of getting her into the maritime union. The desire to get into that union and the high salaries that exist there are prima facie evidence of the benefits that are accruing to that industry as a result of the subsidy that comes in large part from the domestic oil trade.

There is an important issue, though, about whether or not that trade ought to be changed and what impact there ought to be on the maritime industry. This is a judgment that must be made through a process such as we are now participating in where we try to assess what the options might be.

You have alluded to an important feature, which is related to the issue of what is happening to the timing of Alaska oil production and its availability over time. It is true that on the basis of all the estimates that are now available, we anticipate the reduction in Alaska oil production later in this decade and into the 1990's.

There is a great deal of uncertainty in those oil production numbers, however, and they could easily go up, depending on what happens in the total demand for production.

But there is another decline which is even more important, and that is the decline in the size of the maritime fleet in terms of existing tankers and seamen. Given the current age distribution of the fleet and workers, we are going to find ourselves in the position of recruiting new seamen and building new tankers to enjoy the subsidy for the transport of Alaskan oil from Valdez to the Gulf of Mexico, if we do not allow the export of some Alaska oil soon.

This seems to be, at best, a foolhardy policy which cannot be justified by adhering to the rules of the game that existed in the past.

We also looked at the question of the level of oil exports that would be possible with no impact on the maritime industry. In other words, we determined the level of exports which would be possible while still transporting enough oil from Alaska to the gulf to allow the existing seamen and the existing ships to stay through their normal retirement age. Although less than the free market exports, we found that by 1990, we will get back up to about the same export level of approximately 50,000 barrels per day.

So this raises the opportunity for consideration, which I know you have discussed and others are considering, of some kind of a compromise position. The exact level of that compromise is not known, and I do not have a particular recommendation, but the potential is certainly there to do so without harming even the maritime industry.

And if you incorporate the suggestion that you have made of using U.S.-flag ships for the transport of oil to Japan, there is a further opportunity for compromise. Our analysis suggests that although the use of U.S.-flag ships does provide some additional subsidy to the maritime industry, the subsidies would not be large enough to change the incentives for the producers to export the oil, thus the volume of exports would be about the same as in a free market.

So, on balance, we conclude that the economic interest of the country is best served by allowing free market export of Alaska oil. We conclude that the energy security interests of the country are best served by allowing this export, and we also find that there are ample opportunities to design a compromise policy which does not completely abrogate the rules of the game that have existed in the past.

The details are found in the report that I mentioned, but I would be happy to take any questions that you may have at this time, Mr. Chairman.

[Mr. Hogan's prepared statement follows:]

PREPARED STATEMENT OF WILLIAM W. HOGAN

Good afternoon, Mr. Chairman. It is a pleasure for me to have an opportunity to speak with the committee today. My name is William W. Hogan. I am a Professor of Public Policy, Chairman of the Public Policy Program, and Director of the Energy and Environment Policy Center at the John F. Kennedy School of Government, Harvard University. In addition, I am a Director of Putnam, Hayes & Bartlett, Inc. [PHB], an economic and management consulting firm located in Cambridge, Massachusetts. In my research and general writings on national energy policy, I have recommended lifting the ban on the export of Alaska oil. Recently, my colleagues and I at PHB completed a detailed study, entitled "The Export of Alaska Crude Oil: An Analysis of the Economic and National Security Benefits," which further supported a policy of free market exports. The report was prepared for Alaska Lumber & Pulp Co. of Sitka, Alaska. A copy of the full report has been submitted for the record. The Executive Summary is attached to my written testmony as an appendix.

In summary, we found what analysts at the Department of Energy and elsewhere have found: that the only beneficiary of the ban on exports is the U.S. maritime industry and that the losers are Federal taxpayers, the State of Alaska, and the oil companies themselves. Consumers should be indifferent because lifting the ban on exports would not affect world oil prices. The national security of the United States would be enhanced by reducing Japan's dependence on Persian Gulf crude oil, hence reducing the likelihood of panic buying in the event of an OPEC oil disruption.

Furthermore, we found that it is possible to allow a partial lifting of the export ban with little or no impact on the maritime industry. The domestic maritime industry is shrinking and growing older. Nearly 40 percent of the tanker tonnage is over 15 years old, and over half the workforce is above the age of 50. Natural attrition and retirement would permit the export of Alaska crude with no adverse impact on the existing maritime industry. If U.S. oil export policy were designed to protect only the existing ships and workers, it would be possible to export approximately 200,000 barrels per day in 1985, growing to over 500,000 barrels per day by 1990.

Our findings are based on an analysis of the profitabilty to the three major North Slope producers, including oil extraction and transport, the costs of shipping crude oil to various destinations, and an allocation of the cost differentials to the various parties.

The start of the analysis is the difference in shipping rates to the various markets. The oil industry has estimated that it would cost $0.50 per barrel to ship oil from Alaska to Japan on foreign flag vessels, compared to approximately $5.25 per barrel to ship to the U.S. Gulf Coast. These costs, and their implications for windfall profits taxes, have become the subject of at least two congressional investigations. For example, ARCO testified that its costs were about $6.00, Exxon's representatives implied a cost of about $5.25 per barrel, Sohio's representative implied a cost of about $4.40 per barrel. We selected the middle figure, $5.25, as being representative of the industry estimates. At any rate, the cost to ship to the U.S. Gulf on Jones Act ships is several times higher than the cost to ship to Japan. Hence, there are significant potential transportation savings available from free market exports.

We next examined the after-tax profitability of producing and shipping oil to the various markets to see how much Alaska crude oil would move to Japan in a free market.

Each oil company has a somewhat different perspective based on the location of its refinery capacity, the number of Jones Act tankers it owns, its contractual obligations to the Northville pipeline across Panama, and a variety of other factors. In brief, we found that Sohio, which owns no Jones Act vessels, would export most of its oil (about 400,000 barrels per day by 1985) once its contract with Northville expires. ARCO, which owns all of its own ships, would not find it as profitable to export as to ship it to the U.S. west and gulf coasts. Exxon, which owns at least 30 percent of the tankers needed to ship its share of North Slope production, would export about 140,000 barrels per day in 1985. In total, then, we would expect approximately 540,000 barrels per day (or about one-third of ANS production) to be exported, with the remaining two-thirds of ANS production continuing to be shipped to west coast and gulf coast refineries.

How would this level of exports affect the U.S. maritime industry? Free market flows of oil would require about 6.2 million deadweight tons of Jones Act vessel capacity in 1984. The current supply of tankers (about 9.1 million DWT) would mean that 2.9 million DWT would be surplus in 1984. The surplus would decline gradually until the early 1990's when vessel retirements would have brought supply and demand into balance again.

The number of tanker employees has declined by about one-third since 1968. If no new employees are added to this workforce, this number will decline to 53 percent of current levels by 1990. If the 500,000 barrels per day of oil were exported beginning in 1984, about 2,800 maritime workers would be idled, take early retirement, or find other work. As retirements take place, this figure drops off rapidly until in the late 1980's the demand for workers catches the supply.

The net effect of the current situation is that the U.S. taxpayer loses $2.31 per barrel in uncollected tax revenues for oil which could be exported but is not. It would be better to pay the maritime employees not to work than continue to subsidize this practice. If one multiplies the amount of oil to be exported (500,000 barrels per day) by the $2.31 per barrel Federal subsidy and divides by the number of maritime employees idled in 1984 (2,800), we find that we could pay each employee $150,000 for not working. The price would increase each year as more and more workers retire.

I might add that U.S. maritime jobs are so attractive and pay so well that the average wage is $36,000 for only 6 months' work. Many employees make substantially more. A recent article in the Boston Phoenix (July 5, 1983) described how difficult it is for someone to get into the maritime union: one potential employee was told that not even Congressman Tip O'Neill could get her into the union.

Why won't lifting the ban affect consumer prices? To address this issue one needs simply to understand that oil is a fungible commodity. By "fungible" I mean that oil is oil the world over, and except for minor quality differences, the price of oil is determined by a world market price. Currently the price of oil is determined primarily by the price of Saudi Arabian Light crude, which is very abundant. All other crudes are priced relative to the delivered cost of Saudi Light. For example, Saudi Light sells for about $30 per barrel on the U.S. gulf coast. Therefore, west Texas sour crude, Alaska North Slope crude, and other crude oils all sell for about $30 per barrel, adjusted for quality differentials. Anyone selling for substantially less will be foregoing profits. Anyone selling for more will be unable to make a sale.

Thus in a free market Alaska oil export would have no effect on crude oil prices paid by U.S. refineries. While the reduced shipments of Alaska oil to the U.S. gulf coast refineries would be replaced by imports, imports would be priced the same as Alaska oil delivered to those markets.

It has been argued that the export of Alaska oil would increase the price which west coast consumers pay for petroleum products. This argument is based on the theory that the delivered price of crude on the west coast is less than that in the gulf due to the higher cost of transporting oil to the gulf ($5.25 versus $1.40). Thus producers would be willing to sell their oil on the west coast for $3.85 less (the difference between the two transportation costs) in order to avoid the additional expense of transporting oil to the gulf.

This logic would be compelling were it not for several factors which tend to keep Alaska crude prices the same on both the gulf and west coasts. First, as described previously, Saudi Light sets prices on both coasts. Its delivered price is approximately the same on each coast because the transportation costs from the Persian Gulf are identical. Second, windfall profits and other taxes reduce the transportation cost savings to only $0.47 per barrel after taxes for a nonintegrated producer such as Sohio. Third, shipping profits make the gulf an attractive market for integrated producers such as Arco and Exxon, reducing the incentive to cut prices on the west coast. Fourth, refineries on the gulf coast have been retrofitted to process high-sulfur ANS crude. Finally, the integrated producers tend to ship their own crude to their own refineries which avoids an arm's length transaction. In this case the prices that consumers pay for petroleum products depend not on the refiner's crude acquisition cost, but on the supply and demand for the petroleum product in question.

What are the national security implications of lifting the ban on exports? We arrived at three conclusions regarding the national security effects of a free market in oil trade.

First, U.S. energy security would be enhanced, not diminished, by exports. In a panic, the price of all oil is bid up by consuming nations. One's vulnerability to a disruption should be measured not only in terms of physical supplies of oil, but in the effect of higher prices on the economy. The amount of the shortfall would be roughly the same for all countries. Prices will rise and supplies will be reallocated. The United States benefits if no other country is so overly dependent on one source of crude that it bids up the price in a panic. Japan, which imports all of its oil and is the world's second largest importer next to the United States, is heavily dependent on Persian Gulf crude. If we don't share oil in a time of stable oil prices, we lose credibility in our commitment to the crisis-sharing arrangements under the International Energy Agency. Thus to the extent that the United States can reduce Japan's dependence, it improves its own energy security by improving the chances for cooperation among consumers.

Second, U.S. foreign policy objectives would be furthered by allowing exports. American security rests on its leadership of the Western Alliance. The economic prosperity of the Alliance is extremely important to keeping allies together. In fact, differences in our allies' vulnerability to energy disruption present the Soviet Union—and others—with better opportunities to disrupt Western alliances than direct military threats. It is folly to spend billions on the military budget while ignoring the threats that energy security can pose to our allies.

Ironically, the United States already exports approximately 650,000 barrels per day of petroleum products to other countries including Japan (108,000 barrrels per day) and the Soviet Union (6,000 barrels per day). It makes little sense to impose a ban on exports of crude oil which consumers cannot use and which is in a large surplus situation on the U.S. West Coast while at the same time permitting export of useful petroleum products.

The U.S. alliance with Japan has been a crucial factor in its foreign policy. Not only is Japan the second largest economy in the free world, but its geographical location makes it critically important in the East Asian balance of forces. A January 1983 report on "The U.S.-Japan Relationship in the 1980's" by the Security Conference on Asia and the Pacific [SECAP] states that "the military power of the Soviet Union has grown inexorably over the past decade, as have Moscow's deployment in Asia of naval, air, and ground forces. These developments increase the need to strengthen and broaden the coordination of long-term U.S. and Japanese strategic policy. . . ."

At the same time, the SECAP report goes on to note that "events of recent years have clearly shown the difficulties of dealing separately with the economic and security problems faced by the two countries. Trade and defense issues have been linked politically in the United States. . . . Of immediate and particular concern to the future of the United States-Japan tie are signs of eroding American public support for sustaining an open and intimate relationship." Since the causes for trying to prevent the export of Alaska oil are basically protectionist rather than energy security, such efforts contribute to this potential damage to U.S. military security.

American willingness to export Alaska oil would make a contribution to moderating some of the tensions between the United States and Japan. Rather than always asking the Japanese to raise military expenditure, the United States can reassure its ally in a key area of security as seen from the Japanese perspective. This would help to reduce the tensions in the security debate.

In conclusion, my colleagues and I at Putnam, Hayes & Bartlett found that the taxpayers and the State of Alaska are currently providing a large subsidy to the maritime industry. This subsidy will amount to a present value of $2.4 billion over the next decade if the ban on exports is continued. It would be cheaper to pay the affected employees and eliminate the ban than continue to create new subsidized jobs and build new subsidized tankers. A complete lifting of the ban would result in only a partial reallocation of Alaska oil to the export trade. The best policy may be a gradual phasing in of exports to reduce the impacts on the maritime industry while attaining U.S. energy and national security objectives.

Thank you for your attention. I would be happy to address any questions.

APPENDIX—EXECUTIVE SUMMARY

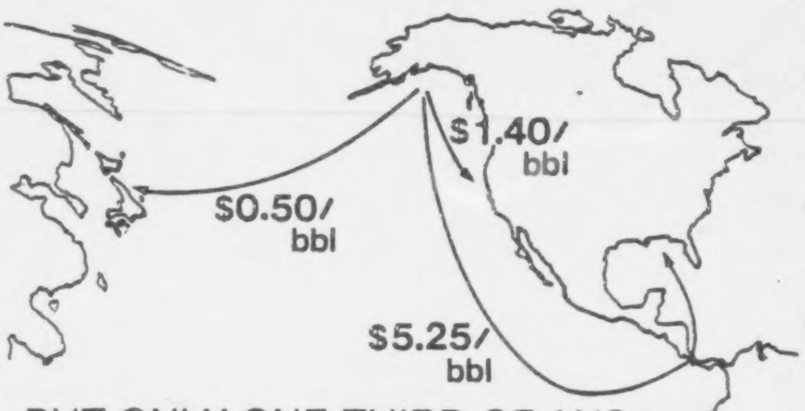
THE EXPORT OF ALASKA CRUDE OIL: AN ANALYSIS OF THE ECONOMIC AND NATIONAL SECURITY BENEFITS

The Pacific rim offers a natural market for Alaska oil. By exploiting this market over the next decade, the United States could capture $2.4 billion in increased revenues through transportation savings. Free trade in oil promotes international energy security, reinforces broader foreign policy objectives, contributes to national economic competitiveness and encourages development of new reserves. With oil prices determined by the world market, consumers benefit from increased oil production anywhere in the world.

By effectively banning the export of Alaska oil, the Export Administration Act of 1969 forecloses these gains for the nation. Based on an elusive hope of oil security, this export ban bestows large windfalls on maritime interests at the expense of U.S. taxpayers.

The prolific Alaska oil fields have outstripped oil demand on the West Coast. In a long and expensive trip, the surplus Alaska oil now travels across Panama to the Gulf Coast. Although West Coast demand would continue to be met in a free market, oil companies would find it more profitable to ship a portion of this surplus to Japan and other Pacific Rim countries. (See figure.)

THE COST TO SHIP TO JAPAN IS ONE-TENTH THE COST TO SHIP TO THE GULF COAST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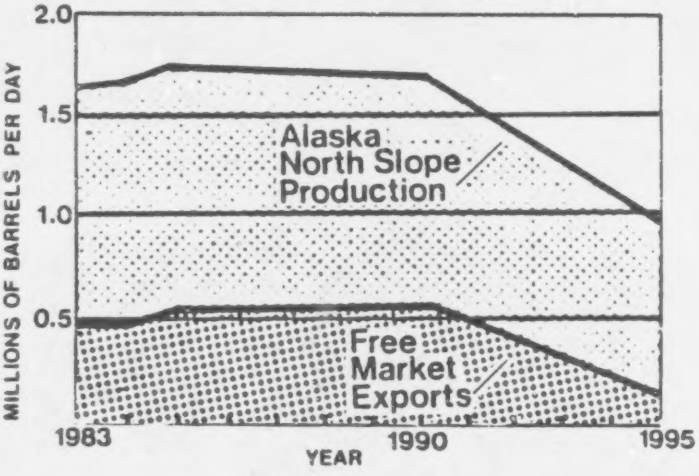
BUT ONLY ONE-THIRD OF ANS PRODUCTION WILL BE EXPORTED

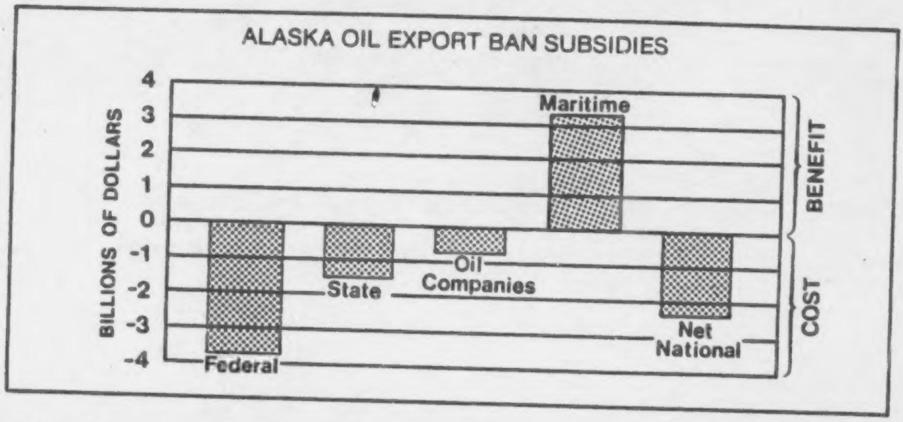


Ironically, the United States currently exports 650,000 barrels per day of petroleum products to other countries, including Japan and the Soviet Union. Continuing the ban on exports of crude oil to our allies, while at the same time permitting export of refined products to any nation is illogical both from a national security and an energy policy perspective.

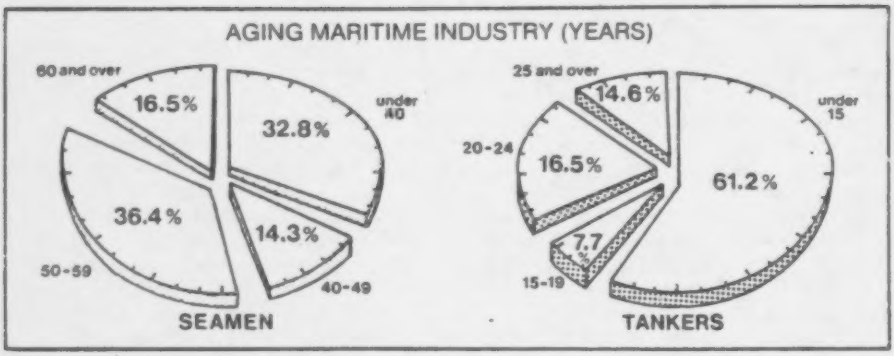
It is also ironic that although the United States is obliged under the International Energy Agreement to provide oil to Japan in a time of international emergency, the United States is unable to sell any oil in normal times, even though the creation of an energy relationship would be to the benefit of both nations. Trade in natural gas and coal might logically follow in the wake of Alaska oil exports. The final irony is that even though the United States spends billions of dollars each year in the defense of the Pacific (and stations troops there), it is unwilling to provide energy security by taking the step of making some Alaska oil available to that key strategic area.

Free trade in oil is consistent with both the letter of our international agreements and the reality of the oil market. The United States cannot insulate itself from the world market. Artificial trade barriers compromise security by reducing flexibility and closing doors to cooperation. As we have seen in the last decade, attempts to hoard oil supplies accelerate crises and complicate all security and foreign policy negotiations.

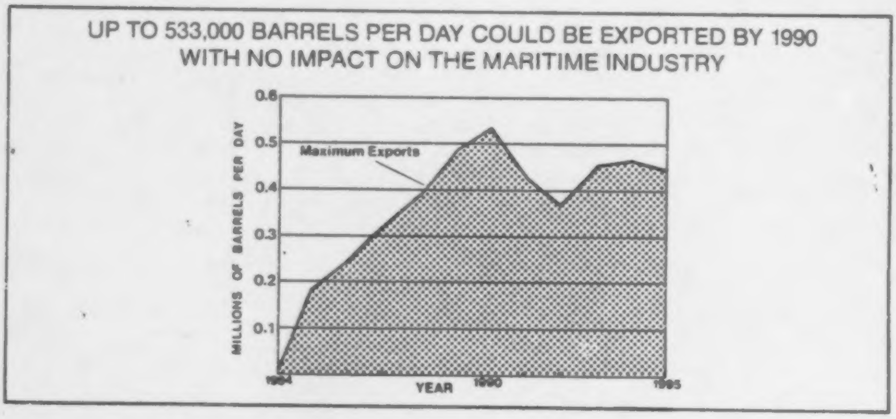
Maritime interests are the principal beneficiaries of the export ban. Oil shipped between U.S. ports is subject to the Jones Act requirement for transport in U.S. tankers. Less efficient than international tankers, traveling a longer route, and enjoying monopoly access to Alaska oil shipments, U.S. tanker rates are inevitably high. Transportation costs to the Gulf Coast are approximately 10 times higher than shipment to Japan. If the ban remains in effect over the next decade, it will take $5.7 billion from taxpayers and oil companies and give $3.3 billion to the maritime interests, for a net loss of $2.4 billion. (See figure.)



However, because the domestic maritime industry is shrinking and growing older, natural attrition and retirement could reduce the demand for further subsidies. Total dead weight tons of capacity dropped 54 percent between 1968 and 1982. Nearly 40 percent of the tanker tonnage is over fifteen years old and 53 percent of the workforce is above age fifty. (See figure.) Natural attrition and retirement would permit the export of Alaska crude with no adverse impact on the existing maritime industry. If U.S. oil export policy protected only the existing ships and workers, and made no additions to the Jones Act fleet, it would be possible to enjoy a growing free trade in Alaska oil, reaching as much as 533,000 barrels per day by 1990. (See figure.)



AGING MARITIME INDUSTRY (YEARS)



UP TO 533,000 BARRELS PER DAY COULD BE EXPORTED BY 1990 WITH NO IMPACT ON THE MARITIME INDUSTRY

In other words, a partial or phased lifting of the ban is feasible with little or no impact on the maritime industry. Free trade would provide the greatest economics benefits. A small step towards free trade would avoid paying to perpetuate the problem, yet still achieve U.S. foreign policy objectives.

THE EXPORT OF ALASKA CRUDE OIL:

AN ANALYSIS OF THE ECONOMIC AND NATIONAL SECURITY BENEFITS

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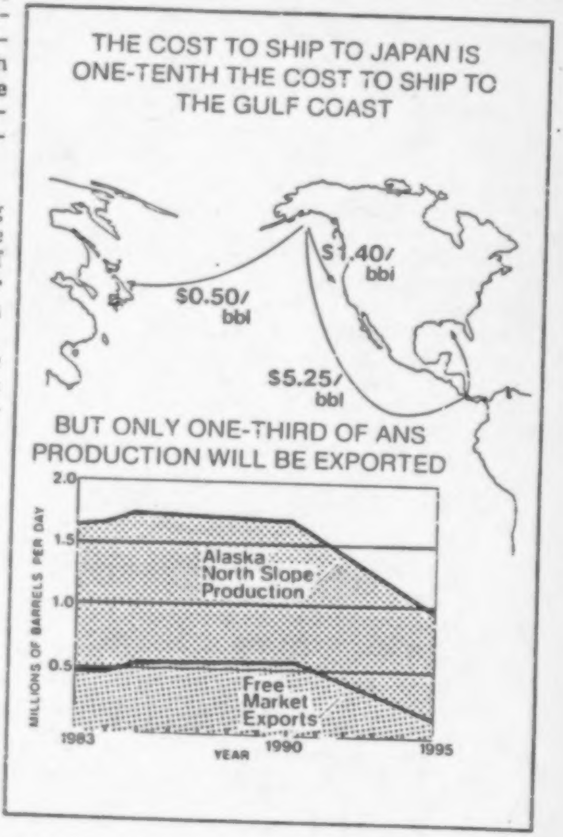
EXECUTIVE SUMMARY
ALASKA OIL EXPORTS

The Pacific rim offers a natural market for Alaska oil. By exploiting this market over the next decade, the United States could capture $2.4 billion in increased revenues through transportation savings. Free trade in oil promotes international energy security, reinforces broader foreign policy objectives, contributes to national economic competitiveness and encourages development of new reserves. With oil prices determined by the world market, consumers benefit from increased oil production anywhere in the world.

By effectively banning the export of Alaska oil, the Export Administration Act of 1969 forecloses these gains for the nation. Based on an elusive hope of oil security, this export ban bestows large windfalls on maritime interests at the expense of U.S. taxpayers.

The prolific Alaska oil fields have outstripped oil demand on the West Coast. In a long and expensive trip, the surplus Alaska oil now travels across Panama to the Gulf Coast. Although West Coast demand would continue to be met in a free market, oil companies would find it more profitable to ship a portion of this surplus to Japan and other Pacific Rim countries. (See figure.)



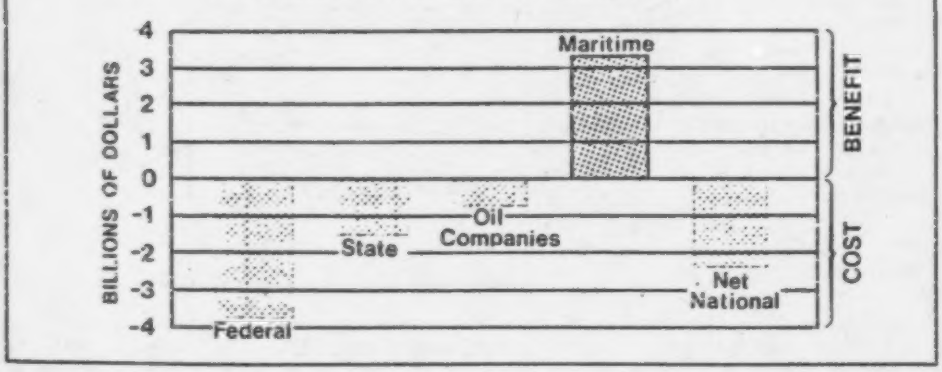
Ironically, the United States currently exports 650,000 barrels per day of petroleum products to other countries, including Japan and the Soviet Union. Continuing the ban on exports of crude oil to our allies, while at the same time permitting export of refined products to any nation is illogical both from a national security and an energy policy perspective.

It is also ironic that although the United States is obliged under the International Energy Agreement to provide oil to Japan in a time of international emergency, the United States is unable to sell any oil in normal times, even though the creation of an energy relationship would be to the benefit of both nations. Trade in natural gas and coal might logically follow in the wake of Alaska oil exports. The final irony is that even though the United States spends billions of dollars each year in the defense of the Pacific (and stations troops there), it is unwilling to provide energy security by taking the step of making some Alaska oil available to that key strategic area.

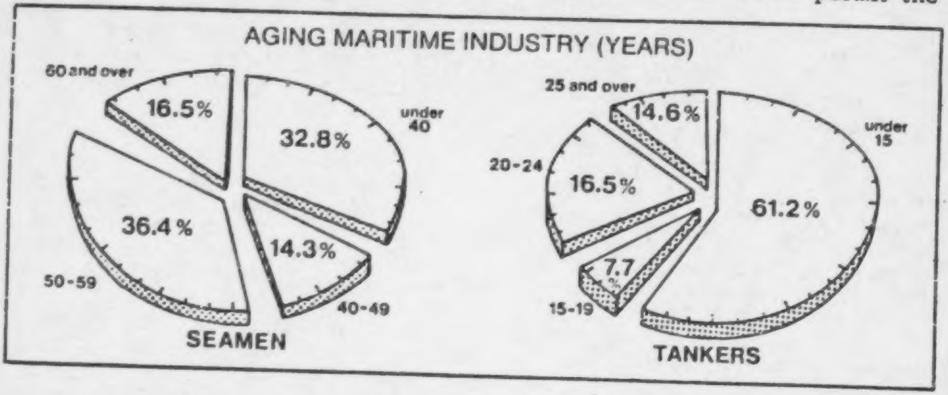
Free trade in oil is consistent with both the letter of our international agreements and the reality of the oil market. The United States cannot insulate itself from the world market. Artificial trade barriers compromise security by reducing flexibility and closing doors to cooperation. As we have seen in the last decade, attempts to hoard oil supplies accelerate crises and complicate all security and foreign policy negotiations.

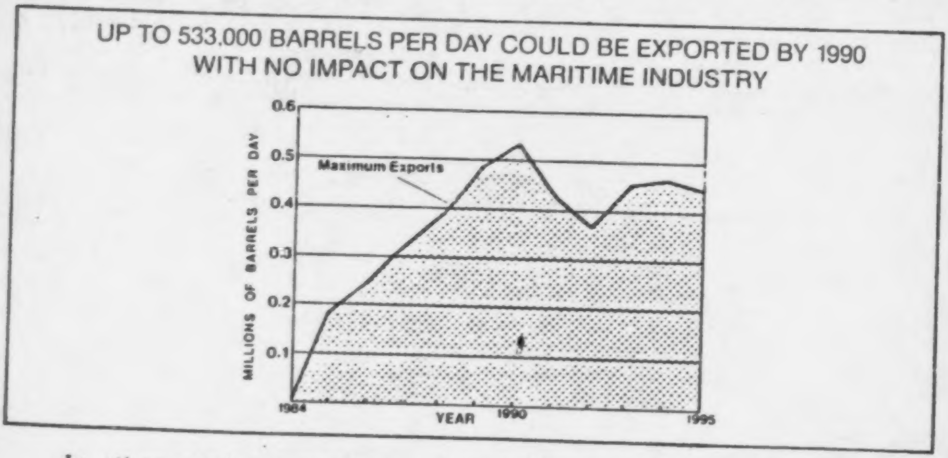
Maritime interests are the principal beneficiaries of the export ban. Oil shipped between U.S. ports is subject to the Jones Act requirement for transport in U.S. tankers. Less efficient than international tankers, traveling a longer route, and enjoying monopoly access to Alaska oil shipments, U.S. tanker rates are inevitably high. Transportation costs to the Gulf Coast are approximately ten times higher than shipment to Japan. If the ban remains in effect over the next decade, it will take $5.7 billion from taxpayers and oil companies and give $3.3 billion to the maritime interests, for a net loss of $2.4 billion. (See figure.)

ALASKA OIL EXPORT BAN SUBSIDIES



However, because the domestic maritime industry is shrinking and growing older, natural attrition and retirement could reduce the demand for further subsidies. Total dead weight tons of capacity dropped 54 percent between 1968 and 1982. Nearly 40 percent of the tanker tonnage is over fifteen years old and 53 percent of the workforce is above age fifty. (See figure.) Natural attrition and retirement would permit the export of Alaska crude with no adverse impact on the existing maritime industry. If U.S. oil export policy protected only the existing ships and workers, and made no additions to the Jones Act fleet, it would be possible to enjoy a growing free trade in Alaska oil, reaching as much as 533,000 barrels per day by 1990. (See figure.)


AGING MARITIME INDUSTRY (YEARS)


UP TO 533,000 BARRELS PER DAY COULD BE EXPORTED BY 1990 WITH NO IMPACT ON THE MARITIME INDUSTRY

In other words, a partial or phased lifting of the ban is feasible with little or no impact on the maritime industry. Free trade would provide the greatest economics benefits. A small step towards free trade would avoid paying to perpetuate the problem, yet still achieve U.S. foreign policy objectives.

Limitations on the export of Alaska oil impose economic costs on the nation and provide substantial subsidies to the maritime industry. The purpose of this report* is to examine the costs of governmental interference in this oil market and consider the impacts of alternative oil export policies.

The discovery of oil on Alaska's North Slope in 1968 represented a major addition to the world's known reserves of petroleum. Unlike the world's other major petroleum fields, however, the Alaska fields are located in one of the world's most geographically remote and harsh climates. The 800-mile Trans Alaska Pipeline was completed in 1977 to carry this oil from the North Slope to the port of Valdez on Alaska's southern coast.

The natural markets for oil produced in Alaska are the various refinery centers located on the Pacific. These include the refining complexes in Washington and California, Japan, Korea, Taiwan, and other Far East locations. These ports are substantially closer to Alaska than alternative destinations such as Texas, New Jersey, and the Caribbean.

Approximately 1.6 million barrels per day of fairly high-sulfur (1.6 percent) crude is produced in Alaska. Refinery demand for this type of crude is about 600,000 barrels per day on the West Coast. In a free market, the surplus crude oil would leave Valdez for destinations in the Far East which would yield the oil-producing companies the highest netback or wellhead price. This economic process would generate the maximum federal windfall profits taxes, provide the greatest incentive for additional exploration, and encourage efficient transportation.

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* This report was prepared by Beth deHamel, James Ferry, and William Hogan. Joseph Nye contributed the chapter on National Security.

In addition to the economic benefits, export of Alaska oil provides real and symbolic security benefits for Japan and other Asian allies. The United States needs their cooperation if it is to limit damage to its economy in an energy crisis. Moreover, the nation is formally committed to such cooperation. Selling Alaska oil in peacetime bolsters the belief in our country's promise to provide over 500,000 barrels per day during an energy emergency. The United States has learned from the experience of the past decade that attempts to hoard oil increase the danger and severity of oil shocks. Interdependence in energy security is not only unavoidable because of the nature of world markets, but failure to cooperate in that area damages U.S. foreign policy and security interests in the Pacific Basin.

Unfortunately, the free market is not being allowed to operate. Reacting to misplaced concerns over U.S. energy security and pressure from maritime interests, Congress prohibited the export of Alaska oil in several pieces of legislation, beginning with the Trans Alaska Pipeline Authorization Act of 1968 and continuing through amendments to the Export Administration Act (EAA) of 1969. As a result, 800,000 barrels per day of Alaska oil is now being shipped 6,500 miles to the Gulf Coast on U.S. flag vessels at a cost of approximately $5.25 per barrel (see Figure 1). By comparison, shipping to Japan on foreign flag vessels would cost one-tenth as much.

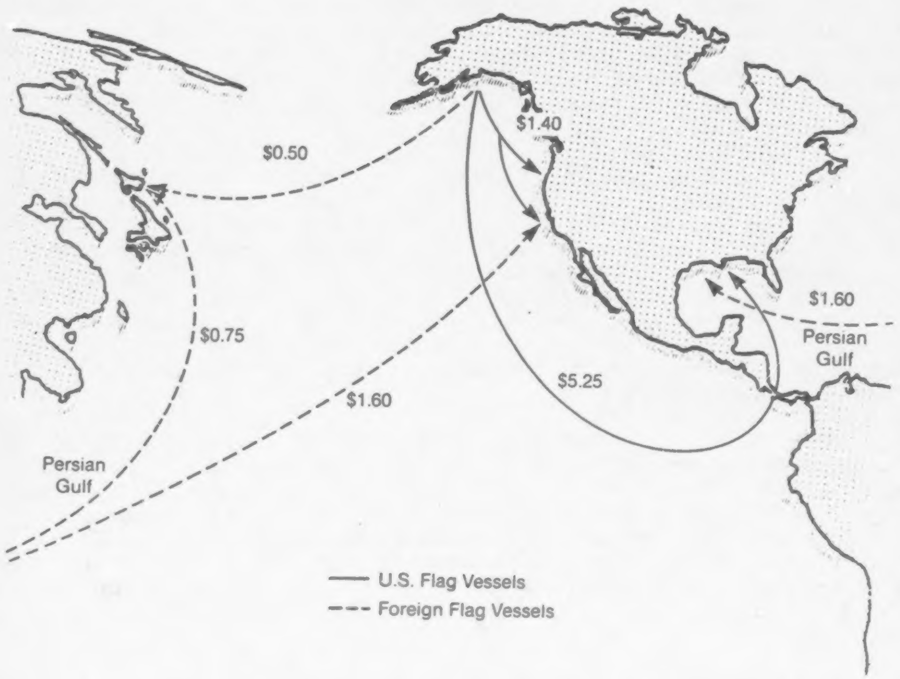
The use of U.S. flag vessels is required by Section 27 of the Merchant Marine Act of 1920, also known as the Jones Act. The original purpose of the Jones Act was to maintain a merchant marine fleet to "serve as a naval or military auxiliary in time of war or national emergency...."[1] However, over time the monopoly created by this legislation has resulted in U.S. shipping costs which are significantly higher than those of the rest of the world. Construction and labor costs of ships built in the United States and manned with U.S. crews are at least twice as high as foreign flag vessels.[2]

In effect, U.S. taxpayers and consumers, particularly those in Alaska, subsidize this inefficient transportation system. The beneficiaries are the U.S. maritime industry and its employees. With an average pay rate of $72,000 per year, jobs in the industry are so attractive that they are rationed, and most seamen work less than six months per year.[3]

With the export restrictions due to expire on September 30, 1983, the opportunity exists to review this subsidy policy. The Reagan Administration has proposed modifications which would promote free trade, improve efficiency in the U.S. economy, and increase federal revenues. Opponents have cited protection of the U.S. maritime industry and potential threats to our energy and national security as justifications for extending the ban.

Figure 1

1982 SHIPPING RATES
($/Barrel)


$0.50
$1.40
$0.75
$1.60
Persian Gulf
$5.25
$1.60
Persian Gulf
—— U.S. Flag Vessels
- - - Foreign Flag Vessels

SOURCE: Oil industry estimates.

This report first examines oil flow which would occur if a natural free market for Alaska North Slope (ANS) crude existed, based on an analysis of oil company decision making and profit incentives. We then address the controlled market as it exists and describe how it benefits the maritime industry and imposes costs on taxpayers. Chapter 4 presents an alternative export scenario aimed at a gradual return to free market conditions. National security issues are discussed in the fifth chapter. The final chapter summarizes the net gains and losses to various segments of the economy. All notes are located at the end of the report.

In a free market, the companies which produce oil on the North Slope would ship their oil to the destination which yielded the highest net after-tax cash flow. The level of domestic oil shipments would then determine the demand for tankers and seamen to operate them.

This analysis of the profitability of producing ANS crude and shipping it to U.S. and foreign destinations has led us to several findings.

- The amount of oil shipped to the Far East would be about one-third of total ANS production, or about 500,000 barrels per day.
- Export would increase the incentive to explore for more oil, particularly in new fields not subject to Windfall Profit Taxes.
- In the short term, consumers would neither benefit nor lose if ANS crude is exported; in the long term, consumers would gain from new production.
- Approximately 2,800 maritime workers (or 1,400 jobs) would be idled in 1984, but natural retirements would reduce this impact over time.

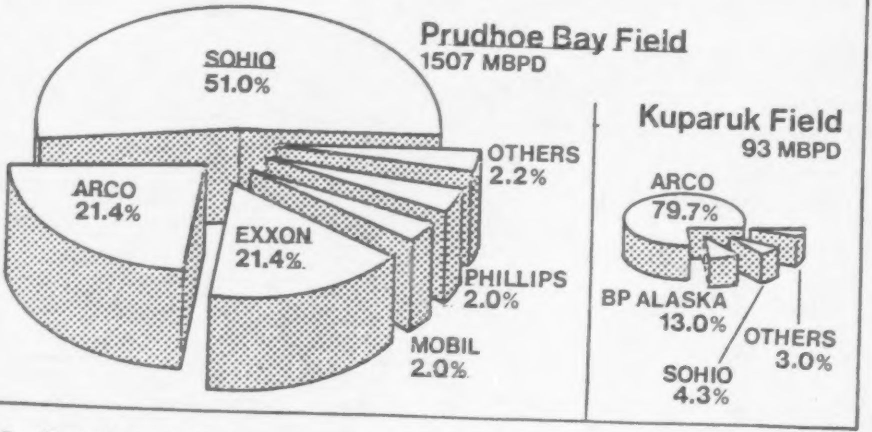
EXPORTS WOULD BE ABOUT 500,000 BARRELS PER DAY

The amount of oil exported would depend on the relative profitability of shipping oil to various locations, the amount of the West Coast surplus, and constraints on the oil companies' ability to alter their distribution patterns. This section first addresses the profitability of ANS crude oil production and the profitability of shipping to the Far East versus U.S. destinations. The quantity of oil available for export is estimated based on a projection of West Coast supply and demand to the year 1995. Finally, institutional constraints such as long-term contracts and refinery requirements are examined to develop an estimate of the quantity of oil most likely to be exported through 1995.

Production Profits

In 1982, production of crude oil from Alaska's North Slope averaged approximately 1.6 million barrels per day. According to the Alaska State Revenue Department, the Standard Oil Company of Ohio (Sohio) produced 51 percent of the oil from the Prudhoe Bay field (see Figure 2). Exxon and ARCO each produced about 21.4 percent. Other producers, including Amerada Hess, Chevron, Getty Oil, Mobil, and Phillips Petroleum, together accounted for the remaining 6.2 percent. The more recently developed Kuparuk field, which is connected to Prudhoe Bay by pipeline, is currently producing about one-fifteenth the volume of Prudhoe Bay and is 80 percent owned by ARCO.

Figure 2
OWNERSHIP OF ALASKA CRUDE OIL PRODUCTION



Profitability of the production of ANS oil depends on many factors, including the destination of the oil. Table 1 shows the price, production and transportation costs, and taxes associated with pumping one barrel of oil in Prudhoe Bay and moving that barrel to market in Los Angeles, the Gulf Coast, or Japan.

Table 1

RELATIVE PROFITABILITY OF PRODUCING ANS CRUDE OIL FOR SHIPMENT TO VARIOUS DESTINATIONS
(@ $28 per Barrel World Price)

	Destination		
	Los Angeles	Gulf Coast	Japan
Saudi Price	28.00	28.00	28.00
Tanker Transport from Persian Gulf[a]	1.60	1.60	0.75
Delivered Price	29.60	29.60	28.75
Less:			
Tanker Transport from Valdez[a]	1.40	5.25	0.50
Pipeline Charge	5.50	5.50	5.50
Wellhead Price	22.70	18.85	22.75
Less:			
Royalty[b]	2.34	2.36	2.84
Severance[c]	2.98	2.47	2.99
Property Tax[d]	0.17	0.17	0.17
Production Cost[d]	0.85	0.85	0.85
Depreciation[d]	1.00	1.00	1.00
Profit before Federal Tax	14.86	12.00	14.90
WPT[e]	3.55	1.55	3.58
Federal Income Tax[f]	5.20	4.81	5.21
Profit After Tax	6.11	5.64	6.11
Add:			
Depreciation[d]	1.00	1.00	1.00
After-Tax Cash Flow	7.11	6.64	7.11

---

[a] Oil industry estimates, assuming foreign flag vessels are used to ship to Japan. (See Chapter 4 for a discussion of the use of U.S. flag vessels to ship to Japan.)

[b] 12.5 percent of wellhead prices, paid to State of Alaska.

[c] 15 percent of wellhead price less royalty, paid to State of Alaska.

[d] Dames & Moore, PAD V Petroleum Supply/Demand Forecast, 5 March 1982, p. 65.

[e] 70 percent of difference between wellhead and a base price, less royalty, severance and field charges, paid to federal government.

[f] 46 percent of profit after other taxes, paid to federal government.

The price of any barrel of crude oil is determined by the world price of Saudi Arabia crude.[4] In early 1983, the marker price of Saudi crude was approximately $28.00. Adding the $1.60 cost of transporting a barrel of crude from Saudi Arabia to Los Angeles results in a landed price of crude oil in Los Angeles of $29.60. While prices for crude will vary on the basis of quality differentials, oil of a quality similar to Saudi crude from any source should sell in Los Angeles for the quality-adjusted Saudi landed price of $29.60.

As indicated in Table 1, the landed price of oil is the same on the Gulf Coast as it is in Los Angeles because the transportation costs from the Persian Gulf are equivalent for each ($1.60 per barrel). However, the cost of transportation from Alaska to the Gulf Coast is higher than the transportation from Alaska to Los Angeles. This higher transportation cost reduces the netback or wellhead price, which in turn reduces profitability and taxes paid. As shown in Table 1, the after-tax cash flow per barrel delivered to the Gulf Coast is $6.64, or $0.47 less than if the oil were delivered to Los Angeles.

The cost of transporting a barrel of oil from Saudi Arabia to Japan ($0.75) results in a delivered price of oil in Japan which is lower than the price in Los Angeles or the Gulf Coast. But because the transportation cost from Alaska to Japan is only $0.50 per barrel, the resulting wellhead price is slightly higher for a barrel shipped to Japan rather than to Los Angeles. The net after-tax cash flow to the oil company is $7.11, by coincidence the same as for shipment to Los Angeles.

Based solely on this oil profitability analysis, it appears that oil companies would be indifferent between the West Coast and the Far East markets, but would prefer these to the long and expensive shipment to the Gulf Coast. However, some ANS producers also profit from oil transport in company-owned tankers, thereby affecting the profitability of export opportunities.

Shipping Profits

Oil companies which own their own tankers can also profit from the shipment of crude oil. Data on company profitability by function is not in general publicly available, but we can estimate the profitability by subtracting operating costs for tankers from the transportation rates. Oil industry sources have estimated that profit for shipping oil to the West Coast is approximately $0.50 per barrel.[5] The profitability of shipping to the Gulf Coast is estimated at $1.66 per barrel.[6] We assume that all oil exported to Japan would be sent on foreign flag vessels and would not contribute shipping profits to the oil companies.

These profit figures represent actual, after-tax profits to shippers. According to an Internal Revenue Service ruling,[7] shipping profits can be treated as foreign-source income which can be offset by foreign tax credits, resulting in no tax liability.

Of the three major producers on the North Slope, ARCO is the only one which transports all its oil on its own ships. Exxon owns at least 30 percent of the vessels used to transport its share of North Slope production, and Sohio owns none of its own tankers.[8] Table 2 summarizes company profitability by destination, given the current ownership of tankers.

Table 2

ESTIMATED PROFITABILITY FROM PRODUCTION AND SHIPPING FOR EACH MAJOR ANS PRODUCER (@ $28 per Barrel World Price)

	West Coast	Gulf Coast	Japan
ARCO (owns all ships)	7.61	8.30	7.11
Exxon (owns 30% ships assigned to Gulf)	7.11	8.30	7.11
Sohio (owns no ships)	7.11	6.64	7.11

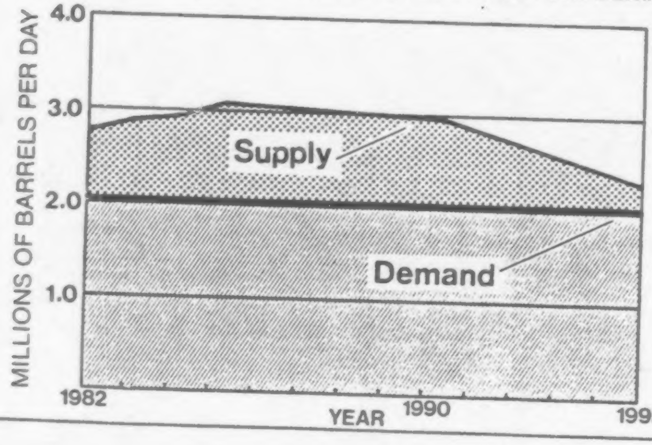
Although these stylized data ignore differences in crude quality, limitations on refinery flexibility, tax accounting and other factors which would influence company decisions, they provide an indicator of economic incentives and are useful for developing guidelines for export decisions.

As indicated, Sohio would be indifferent between shipments to the West Coast or exports to the Far East, and would prefer either to shipments to the Gulf. ARCO, on the other hand, would appear to prefer to send oil to the Gulf because it can capture transportation profits on such shipments. However, as will be described below, it prefers to ship to its own refineries on the West Coast. Exxon, which is assumed to use its own ships on the longer and more profitable shipments to the Gulf, also prefers to ship oil to the Gulf (to the extent that it uses its own ships) and is indifferent between sales on the West Coast or exports.

Projections of Supply and Demand

Given the profitability differentials described above, the next step in determining the likely oil flows in a free market is to project the quantities of oil supplied and demanded in the relevant markets. The State of California is currently projecting new Outer Continental Shelf production of approximately 100,000 barrels per day by 1987, rising to 170,000 barrels per day by 1995.[9] This new production comes in addition to expected increases in the production capacity of existing California onshore oil fields over the next decade. And while California supply is growing, the West Coast demand for crude is expected to remain relatively flat as substitution away from oil continues.[10] Figure 3 shows the projected supply and demand of West Coast crude through 1995, with the gap representing Alaska production needed on the West Coast. Thus over the next few years, an even larger percentage of West Coast demand will be met by California production, leaving a shrinking West Coast market for Alaska crude.

Figure 3
FORECAST WEST COAST CRUDE OIL SUPPLY AND DEMAND



The projections are subject to considerable uncertainty. If oil prices continue to fall, production from new fields, including Kuparuk, could decline. If, on the other hand, oil prices increase, new fields are discovered, or the size of the new California OCS fields is larger than estimated, the surplus could grow to as much as 1.5 million barrels per day by 1990.

Institutional Factors and Free Market Oil Flows

As indicated above, the major ANS producers have only a slight incentive to ship Prudhoe Bay oil to Japan. These profitability calculations must balance other factors which would limit the amount of oil exported by the three major Alaskan producers:

> Refinery Needs. West Coast and Gulf Coast refineries have been retrofitted to handle sour ANS crude. Producers with their own refineries would continue to find it desirable to supply these refineries with their own ANS crude, as they can control both the volume and timing of such supplies. Also, shipping to their own refinery makes the transaction one which is internal to the firm, allowing the company more flexibility in deciding where to recognize profits for tax purposes.
>
> Northville Pipeline. According to the Department of Energy and Northville Industries, the major oil producers have entered into three-year contracts to ship oil through Northville's recently constructed trans-Panama pipeline. Northville indicated that approximately one-half of the 700,000 barrels per day being shipped through the pipeline is under contract for three years.[11]

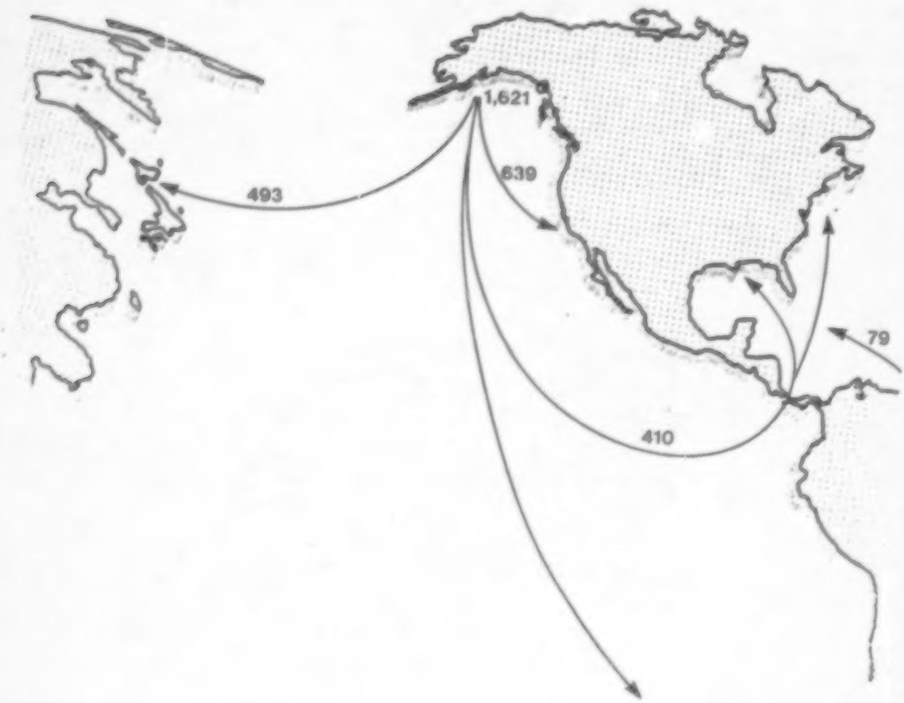
These institutional factors can be integrated with the profitability analyses to devise decision rules for estimating free market flows of oil. The application of these rules provides a baseline for estimating the costs of the export ban.

In a free market, Sohio and Exxon would have an incentive to export Alaska crude. Given the higher profitability of selling crude in Japan rather than the Gulf, Sohio would divert all shipments from the Gulf to the export market except those required to meet its take-or-pay commitment to the Northville pipeline (estimated at 150,000 barrels per day through 1985). As shown in Figure 4, Sohio would export 366,000 barrels per day in 1984 and nearly 450,000 barrels per day by 1990 at the peak of North Slope production. Its exports would fall to 110,000 barrels per day by 1995.

Exxon would export approximately 130,000 barrels per day over the 1984-1995 period. Our profitability analysis indicates that Exxon's preferred market is the Gulf Coast, so long as crude is carried in its own ships. Exxon would allocate its Alaskan crude first to its West Coast refineries, and then send as much to the Gulf Coast as can be carried in Exxon vessels. However, it is more profitable for Exxon to sell oil in the export market than in the Gulf if it must charter vessels for the Gulf Coast trade. Thus Exxon would export the volume of its Alaska production not used in its West Coast refineries or carried to the Gulf in Exxon tankers.

Figure 4

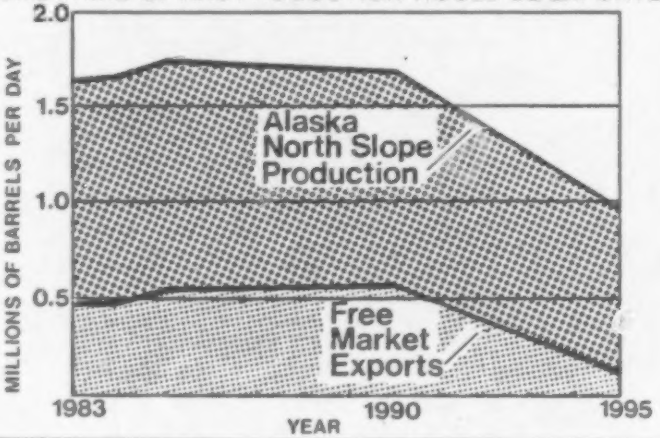
LIKELY SHIPMENTS OF ANS CRUDE OIL IN 1984
IN A FREE MARKET
(Thousands of Barrels Per Day)


1,621
493
639
410
79

ARCO will continue to supply its West Coast refineries with ANS crude oil and then ship the balance to the Gulf Coast in its own vessels. Thus it is assumed that ARCO will find it profitable not to export even in a completely free market.

Assuming that the remaining producers have the same incentives as Sohio, we *obtain an aggregate estimate of the free* market flows of Alaska oil. Even with no restriction on the level of exports, oil company profitability and existing commitments dictate that demand for crude oil on the West Coast be fully met before any crude will be exported. As shown in Figure 5, the most likely level of exports would be at all times less than one-half the total North Slope production, and this maximum desired level of exports would decline sharply if, as expected, North Slope production begins to decline after 1990.

Figure 5
ONLY ONE-THIRD OF ANS PRODUCTION WOULD BE EXPORTED



A FREE MARKET WOULD ADD TO THE TANKER SURPLUS

Some Jones Act vessels would be idled if export of ANS crude were permitted. Both the West Coast and Gulf markets for Alaska oil are served by tankers in the Jones Act fleet. All tankers involved in the Alaska trade operate under the protective legislation of the Jones Act, a 1920 law which requires that all vessels operating between U.S. ports must be U.S. flag ships. The Jones Act (Section 27) states:

> No merchandise shall be transported by water, or by land and water, ... between points in the U.S. ... either directly or via a foreign port or for any part of the transportation, in any other vessel than a vessel built in and documented under the laws of the U.S. and owned by persons who are citizens of the U.S....

Since U.S. flag vessels are significantly more expensive to build and operate than comparable foreign flag vessels, *the Jones Act ensures that* U.S. vessels which might otherwise be unemployed in the competitive world market can operate in the protected U.S. market.

The free market flows of oil summarized in Figure 5 would require that Jones Act vessels transport 610,000 barrels per day to the West Coast and 480,000 barrels per day to the Gulf Coast in 1985. Based on average vessel size, speeds, and operating practices, this level of demand would require a total of 6.2 million DWT of Jones Act vessel capacity.

As shown in Figure 6, the free market demand for U.S. tankers in the domestic oil trade will increase to 6.5 million DWT in 1985 and then decline steadily to 1995. The supply of vessels to meet this demand is expected to decline over the next decade as older vessels are retired. To calculate the supply, approximations were made of normal retirement ages for various size vessels. Vessels under 120,000 DWT are assumed to retire at age 26,[12] while the larger vessels over 120,000 DWT are assumed to retire at age 15.

Figure 6
SUPPLY AND DEMAND FOR TANKERS IN A FREE MARKET

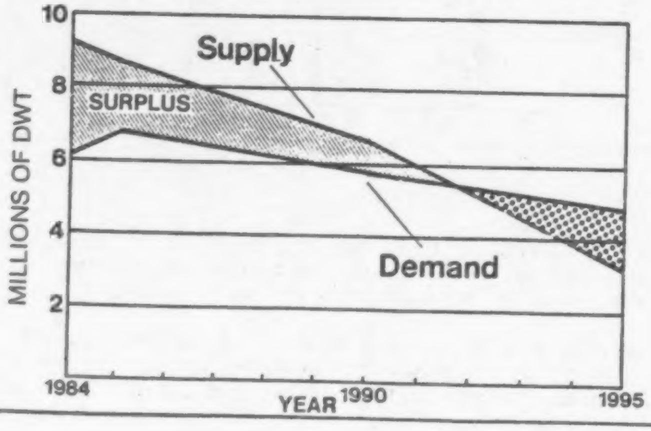
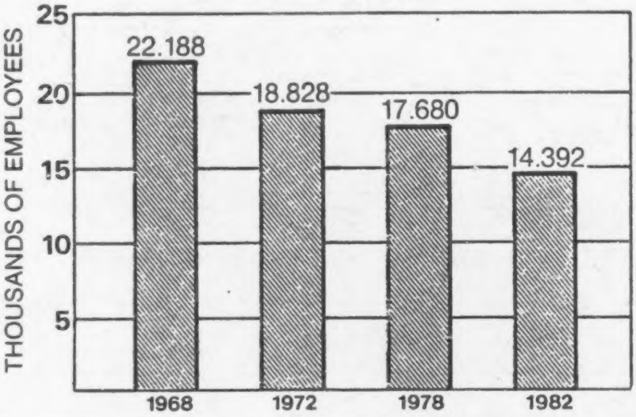


Figure 6 also shows that a free market for Alaska oil would result in a tanker surplus of approximately 2.9 million DWT in 1984, which is equivalent to approximately 32 Panama Canal-sized vessels. By 1990 it would decline to 0.55 million DWT, about the same capacity as six Panama Canal-sized vessels. It is important to note that this capacity would never have been built or kept in service had not the export ban created this demand.

APPROXIMATELY 2,800 EXISTING MARITIME EMPLOYEES WOULD BE IDLED

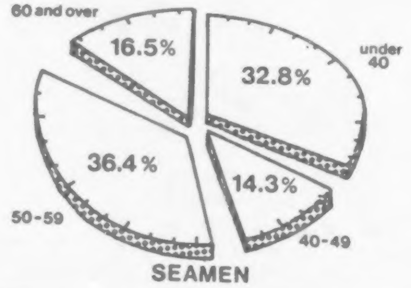
Over the past 15 years, the number of workers employed by the U.S. tanker fleet has declined sharply. As indicated in Figure 7, over 22,000 seamen were employed on U.S. tankers in 1968; by 1982 this figure had dropped to nearly 14,400.[13] And this natural decline is likely to continue into the next decade as both tankers and workers retire.

Figure 7
TANKER EMPLOYEES



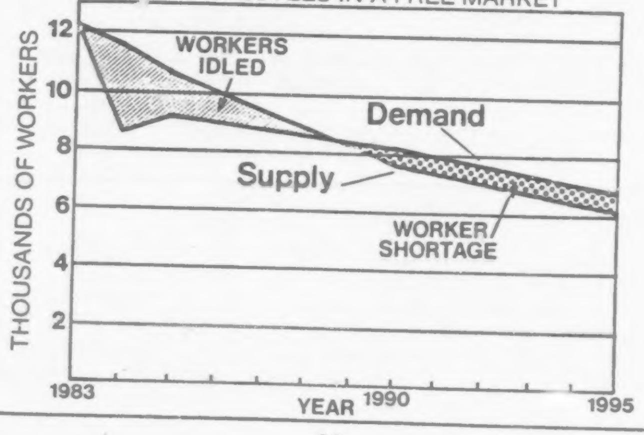
The average age of workers in the U.S. tanker industry is almost 50 years. Further, historical data show that workers retire at an average age of 62. Given the age distribution of the existing workforce as shown in Figure 8, these trends imply that the tanker industry workforce, without layoffs or new hires, could decline to 7,700 workers by 1990 and 6,065 workers by 1995.

Figure 8
AGE DISTRIBUTION OF WORK FORCE



If free oil trade occurred in 1984 allowing oil companies to export on the basis of profitability, a surplus of workers would result and persist through 1988.[14] In 1984, approximately 2,840 workers would be idled or find work for less than six months of the year. By 1990, however, 600 new workers would be needed to meet demand even with no restrictions on trade. Figure 9 illustrates the projected worker supply and demand situation through 1995 given a free market and unrestricted exports.

Figure 9
SUPPLY AND DEMAND FOR EXISTING TANKER EMPLOYEES IN A FREE MARKET



EXPLORATION INCENTIVES WOULD INCREASE

A free market would increase the incentives for additional oil company exploration in Alaska. Further development of North Slope and other oil fields in Alaska will be expensive, and the expected size of new fields is smaller than Prudhoe Bay. Oil company exploration and development decisions are made on the basis of the future expected profits which will result from such development activity. Thus by providing the oil companies with a new, more profitable market for their oil, a free market could increase company incentives to invest in future Alaska exploration and development.

As noted in the profitability analysis, company after-tax profits increase by $0.47 for every barrel of Prudhoe Bay oil sent to Japan rather than the Gulf of Mexico. With the expiration of the windfall profits tax in 1991, this per-barrel differential will increase to $1.57, as shown in Table 3. Further, oil produced from new fields other than Prudhoe Bay is already exempt from the windfall profits tax. If the ban on exports were lifted this oil would earn an additional $1.57 for each barrel shipped to Japan.

In December 1979, oil companies spent billions of dollars acquiring leases in the Beaufort Sea. The high costs of production, estimated at $20 million per well,[16] increase the risks of developing these new fields. At current oil prices these reserves are only marginally attractive to potential developers. The additional incentive of $1.57 per barrel would improve the likelihood that these important resources would be developed.

CONSUMER PRICES WOULD BE UNCHANGED

In a free market, export of Alaska oil will have no impact on the prices that consumers in the United States pay for petroleum products. The export of Alaska oil will reduce the supply of Alaska oil to refineries in the Gulf of Mexico, but these refineries will be supplied by oil from other sources, most likely imports from Mexico and the Middle East. The source of crude oil supply to the refineries, however, has no effect on the prices consumers ultimately pay for petroleum products since the price of all crude oil supplies to the Gulf is the same on a quality-adjusted basis.

Competition and Delivered Prices

To understand why prices of crude oil in the Gulf do not differ depending on where the crude originates, it is necessary to examine how world oil prices are determined. Alaska crude, California crude, and all other oil produced in the United States is part of the world market for oil. Thus the price of oil produced and sold in the United States moves with the price of oil sold on the world market. And the world price of oil is

Table 3

RELATIVE PROFITABILITY OF PRODUCING EXEMPT ANS CRUDE OIL FOR SHIPMENT TO VARIOUS DESTINATIONS
(@ $28 per Barrel World Price)

	Destination		
	Los Angeles	Gulf Coast	Japan
Saudi Price	28.00	28.00	28.00
Tanker Transport from Persian Gulf[a]	1.60	1.60	0.75
Delivered Price	29.60	29.60	28.75
Less:			
Tanker Transport from Valdez[a]	1.40	5.25	0.50
Pipeline Charge	5.50	5.50	5.50
Wellhead Price	22.70	18.85	22.75
Less:			
Royalty[b]	2.84	2.36	2.84
Severance[c]	2.98	2.47	2.99
Property Tax[d]	0.17	0.17	0.17
Production Cost[d]	0.85	0.85	0.85
Depreciation[d]	1.00	1.00	1.00
Profit before Federal Tax	14.86	12.00	14.90
WPT[e]	0.00	0.00	0.00
Federal Income Tax[f]	6.84	5.52	6.85
Profit After Tax	8.03	6.48	8.05
Add:			
Depreciation[d]	1.00	1.00	1.00
After-Tax Cash Flow	9.03	7.48	9.05

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[a] Oil industry estimates, assuming foreign flag vessels are used to ship to Japan. (See Chapter 4 for a discussion of the use of U.S. flag vessels to ship to Japan.)

[b] 12.5 percent of wellhead prices, paid to State of Alaska.

[c] 15 percent of wellhead price less royalty, paid to State of Alaska.

[d] Dames & Moore, PAD V Petroleum Supply/Demand Forecast, 5 March 1982, p. 65.

[e] 70 percent of difference between wellhead and a base price, less royalty, severance and field charges, paid to federal government.

[f] 46 percent of profit after other taxes, paid to federal government.

determined primarily by the price of Saudi Arabian light crude, a high-quality crude oil produced in large quantities.

With over 160 billion barrels of proven reserves, Saudi Arabia has the capacity to produce 11 million barrels of oil per day (compared to North Slope proven reserves of 10 billion barrels and production capacity of 1.6 million barrels per day). Further, Saudi Arabian production represents one-third of the 31.2 million barrels per day productive capacity of OPEC.[17] Thus Saudi Arabia is the world's "incremental supplier" which can increase or decrease the world supply of oil by altering its daily production level. This power over so large a portion of the world's oil supplies has resulted in Saudi crude becoming the marker crude which sets the price standard for all oil in the world market.

The implication for crude prices in the U.S. market is that all crude oil is priced in competition with Saudi oil, regardless of the source of the oil. For example, refineries on the Gulf Coast currently import a significant volume of crude oil from Saudi Arabia to meet their refinery needs. If the official selling price of Saudi Arabian crude is $28.00 per barrel before transportation charges, purchasers in the Gulf pay the $1.60 cost of transporting a barrel of crude from Saudi Arabia to the Gulf for a delivered price of $29.60 per barrel. This price thus determines the price of all other oil bought and sold in the Gulf. Anyone underselling this price would forgo profits; anyone trying to sell at a higher price would be unable to make a sale.

In practice, slight differences between the price of crude oil from different sources may exist in the Gulf and other markets. The primary reason for these discrepancies, however, is the differing quality of crude and not the source of the oil. Alaska crude, for example, is a heavier and thus lower quality crude than the Saudi light. Thus its selling price is slightly less per barrel than a barrel of Saudi crude.

However, this lower price does not translate to lower product prices for consumers. Reduced prices for low-quality crude are based on the higher costs of refining such crude, and the lower value of the resulting products as compared to the products resulting from the refining of Saudi light. Refiners are unwilling to pay the same price for low-quality crude because their profits after refining such crude would be lower. The quality differential which results in a slightly lower per-barrel price of Alaska crude is based on these two factors.

Thus in a free market Alaska oil export would have no impact on the prices which consumers pay for petroleum products in the southern, eastern and midwestern parts of the United States. Restricting exports does not keep prices low and allowing exports would not raise them. While the reduced supply of Alaska oil to Gulf Coast refineries would be made up with additional imports, these imports would be priced the same as Alaska oil delivered to these markets.

The West Coast Discount

It has been argued that the export of Alaska oil would increase the price which West Coast consumers pay for petroleum products.[18] This argument is based on the theory that the delivered price of crude on the West Coast is less than that in the Gulf due to the higher cost of transporting oil to the Gulf ($5.25 versus $1.40). Thus producers would be willing to sell their oil on the West Coast for $3.85 less (the difference between the two transportation costs) in order to avoid the additional expense of transporting oil to the Gulf.

This logic would be compelling were it not for several factors which tend to keep ANS crude prices the same on both the Gulf and West Coasts. First, as described previously, Saudi light sets prices on both coasts. Its delivered price is approximately the same on each coast because the transportation costs from the Persian Gulf are identical. Second, windfall profits and other taxes reduce the transportation cost savings to only $0.47 per barrel after taxes for a nonintegrated producer such as Sohio. Third, shipping profits make the Gulf an attractive market for integrated producers such as ARCO and Exxon, reducing the incentive to cut prices on the West Coast. Fourth, refineries on the Gulf Coast have been retrofitted to process high-sulfur ANS crude. Finally, the integrated producers tend to ship their own crude to their own refineries which avoids an arm's length transaction. In this case the prices that consumers pay for petroleum products depends not on the refiner's crude acquisition cost, but on the supply and demand for the petroleum product in question.

On balance, we find little justification for the existence of a West Coast discount, and we accept the assumption that product prices are determined by world market prices. Our decision rules predict that export policy will have no effect on the flow of Alaska oil to the West Coast. Therefore, we adopt the conclusion of the California Energy Commission that there would be only minimal, if any, effect on West Coast prices.[19]

FREE MARKET SUMMARY

In a free market, economic incentives and special institutional factors would continue to ensure that more than half the ANS production was shipped to West Coast and Gulf Coast markets. However, up to 540,000 barrels per day would flow to the natural markets on the Pacific Rim in 1985. This free trade would maximize incentives for further exploration, enhance total energy security, and provide significant tax revenues, all without adverse impact on the consumer.

Because of past protective policies, free trade in oil would leave some tankers and merchant seamen in excess supply. To the extent that these ships and workers do not have alternative uses, there would be early retirements, lay-ups, and lay-offs. Concern with these impacts on the U.S. maritime industry has led to proposals to continue to provide subsidies through an extension of the ban on export of Alaska oil.

Under the restrictions of the amendments to the Export Administration Act, a free market for ANS crude does not exist. Oil companies must ship crude oil to U.S. ports in U.S. flag ships at some expense to themselves and greater expense to taxpayers.

In this section we project the flows of oil, calculate the benefits to the maritime industry, and describe other impacts of this market restriction.

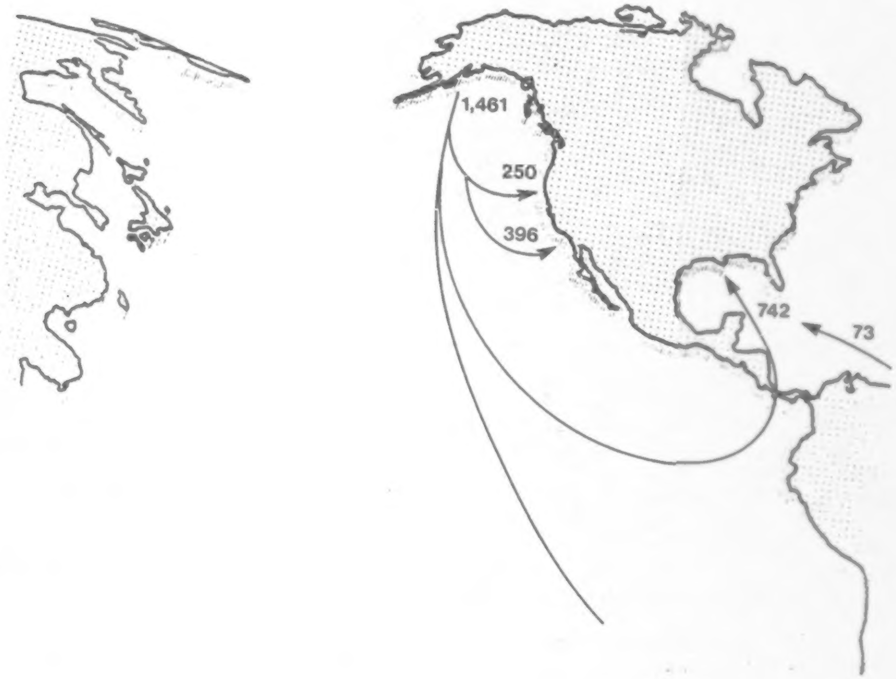
THE WEST COAST SURPLUS WILL GROW

More oil is currently produced on the West Coast (including Alaska) than can be refined and used there. Production of Alaska and California oil fields totaled 2,806,000 barrels per day in 1982.[20] Refinery demand on the West Coast, however, was only 1,946,000 barrels per day.

In the absence of exports, the West Coast supply imbalance results in a surplus of crude oil which must be sent through Panama to the U.S. Gulf. The estimated shipments for 1982 appear in Figure 10. Given current forecasts of Alaska and California crude production through 1995, the surplus will rise from 856,000 barrels per day in 1983 to almost 1 million barrels per day by 1985 and remain near this level through 1990 (see Figure 11). Only with the projected decline in Prudhoe Bay production after 1990 will the surplus begin to shrink, falling to less than 300,000 barrels per day by 1995.

Figure 10

ANS CRUDE OIL SHIPMENTS IN 1982
(Thousands of Barrels Per Day)



SOURCES: State of Alaska Revenue Department and Congressional testimony by oil company executives.

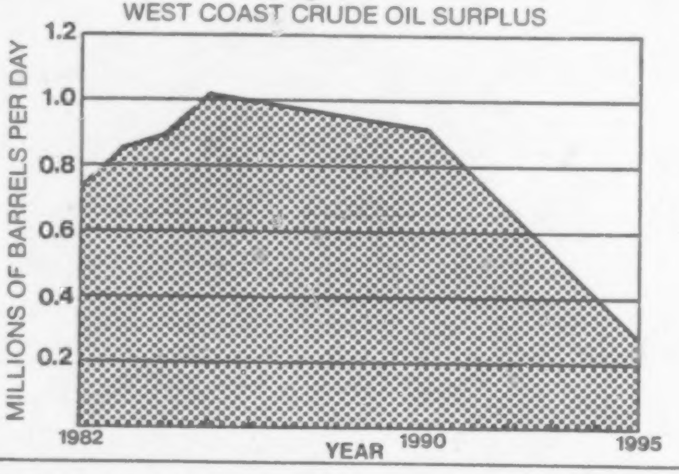


Figure 11
WEST COAST CRUDE OIL SURPLUS

Each of the major ANS producers is currently sending oil to the Gulf Coast. Sohio, the largest ANS producer, has no West Coast refineries. In recent years, it has found a West Coast market for a portion of its Alaska crude through exchange agreements with companies who have West Coast refinery capacity but little or no Alaska production, such as Chevron. The volume of the Chevron swap was reportedly 250,000-300,000 barrels per day, with Chevron providing a similar amount of crude to Sohio's eastern refineries. The remainder of Sohio's Alaska production is shipped to the Gulf, as West Coast demand is fully met by California production and Alaska crude supplied by ARCO and Exxon.

ARCO produces 340,000 barrels per day of ANS crude and has approximately 280,000 barrels per day of West Coast refining capacity. To provide its own refineries with a secure source of crude, ARCO first ships its crude to its own West Coast refineries in Puget Sound and California. Only the remaining ARCO crude not needed in its West Coast refineries is sent to the Gulf Coast.[21] We assume that ARCO will continue to ship first to its own West Coast refineries and then to the Gulf Coast.

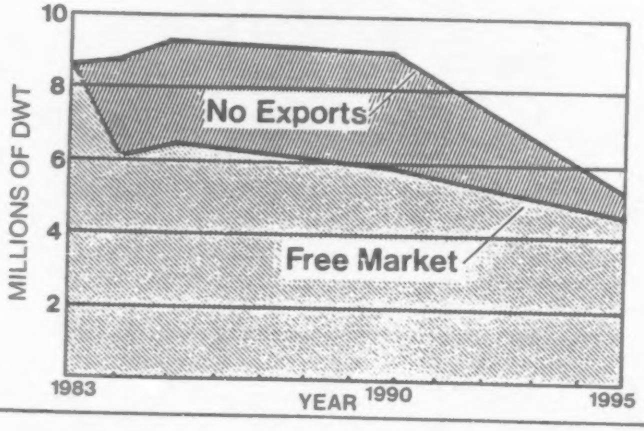
Exxon, like ARCO, also meets its West Coast refinery capacity before sending the remainder of its Alaska oil to the Gulf in its own ships. Exxon has approximately 100 MBPD of West Coast refinery capacity. In recent testimony before the House Committee on Energy and Commerce, an Exxon spokesman stated that it was shipping 100 MBPD to the West Coast, 70 MBPD to New Jersey, and the balance to its Gulf Coast refineries.[22]

In summary, approximately one-half of the total ANS production is currently being shipped through Panama to the U.S. Gulf Coast. If the ban is continued these shipments will grow larger as a result of the growing West Coast surplus.

ANNUAL GROSS MARITIME SUBSIDIES WILL EXCEED ONE BILLION DOLLARS

As noted in the previous section, the ban results in over 500 thousand barrels per day of crude oil being shipped to the Gulf Coast in the 1980s which would be sent to the Far East in a free market. This flow creates a demand for 3.8 million DWT of U.S. vessels to haul oil from Valdez to Houston that would not otherwise exist. The tanker capacity required to ship oil to the Gulf rather than Japan is shown in Figure 12. As indicated, that portion of demand that results solely from this trade restriction peaks at about 3 million DWT in 1990 as ANS production peaks and the West Coast surplus hits its maximum level.[23]

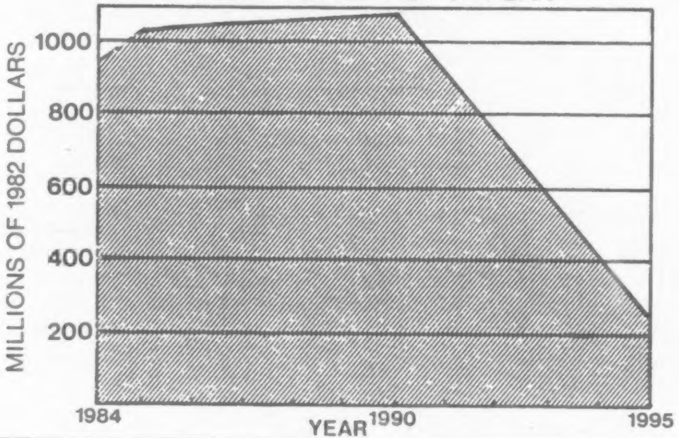
Figure 12
TANKER DEMAND



The Jones Act ensures that only U.S. vessels are allowed to operate in the protected U.S. market. The windfall profits tax and other taxes based on wellhead prices reduce the oil company's incentive to keep shipping costs down. As described previously, the profits on shipping (and refining) are taxed at a lower rate than are the profits as measured at the wellhead. The $3.85 transportation rate differential from the Gulf Coast relative to the West Coast translates into a $0.47 differential at the wellhead after taxes on Prudhoe Bay oil. Yet the oil company makes a $1.66 profit on shipping to the Gulf Coast.

Without competition this higher price can be maintained and creates a substantial subsidy for the maritime[24] industry. This protected market will provide a gross subsidy of $945 million to the maritime industry in 1984. The annual value of the subsidy through 1995 is shown in Figure 13. The U.S. taxpayer provides 44 percent and the State of Alaska 19 percent of this subsidy, with the balance coming from oil companies and losses in economic efficiency.

Figure 13
GROSS MARITIME SUBSIDY PER YEAR
RESULTING FROM EXPORT BAN

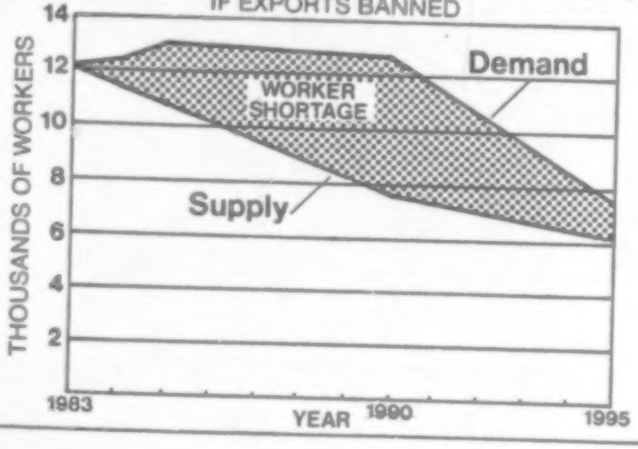


NEW MARITIME EMPLOYEES WILL BE NEEDED

The ban on exports also creates a larger demand for merchant marine seamen than would otherwise exist. Figure 14 illustrates the dynamics of tanker employment supply and demand through 1995 with the ban in place. As shown, the current supply of workers is approximately equal to demand, given the assumption that each worker works six months per year. In the absence of exports, by 1984 the demand for tanker employees exceeds supply by nearly 850 workers as Alaska crude production increases and workers over age 62 retire. By 1990, the demand for tanker employees exceeds the supply by 2,200 jobs (or 1,100 billets) as natural retirements continue to reduce the size of the existing workforce.

With the continuance of the ban, this worker shortage will be met by hiring and training new workers. In essence, the U.S. taxpayer would be recruiting new beneficiaries for its subsidy.

Figure 14
SUPPLY AND DEMAND FOR EXISTING TANKER WORKFORCE IF EXPORTS BANNED



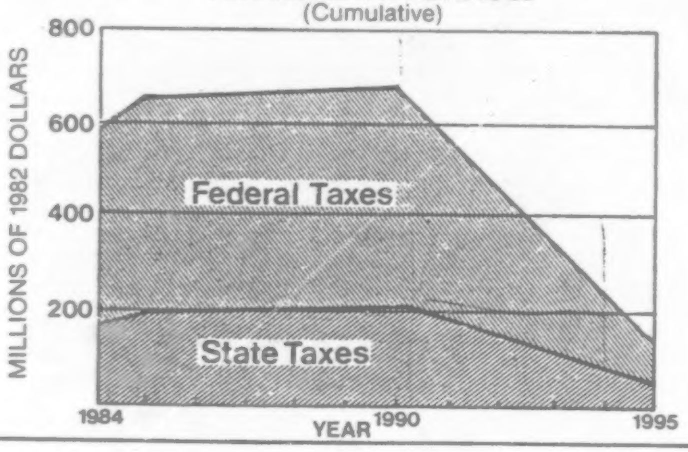
THE BURDEN FALLS ON THE TAXPAYER

The principal burden of the export ban falls on taxpayers through the reductions in tax payments by oil companies. As was illustrated in Table 1, profits and subsequent taxes on crude oil production are dependent on the cost of transporting oil to market. Furthermore, profits from shipping crude oil to its markets are tax-free (because of offsetting foreign tax credits) yet the costs are still deducted from the wellhead price of oil. Thus, by forcing Alaska crude oil to be transported to U.S. ports in high-cost Jones Act vessels, oil tax revenues are reduced in two ways.

First, the higher construction and operating costs of the Jones Act tankers as compared to international tankers impose a real cost on the U.S. economy. These higher costs are translated into higher rates which in turn reduce the wellhead price of oil. As noted previously, the wellhead price is the basis for both federal and state tax liability calculations; thus any reduction in the wellhead price results in a decline in both federal and state oil tax revenues.

Second, since the profits from shipping are tax-free, the higher shipping rates and profits do not result in higher tax revenues. Figure 15 summarizes the lost tax revenues (in real 1982 dollars) resulting from the export ban. In 1984, the federal government would lose $416 million, rising to $478 million by 1990. The State of Alaska would lose $182 and $209 million in 1984 and 1990 respectively, including severance taxes and royalty payments.[25]

Figure 15
FOREGONE TAX REVENUES
(Cumulative)



COMPROMISE IS FEASIBLE

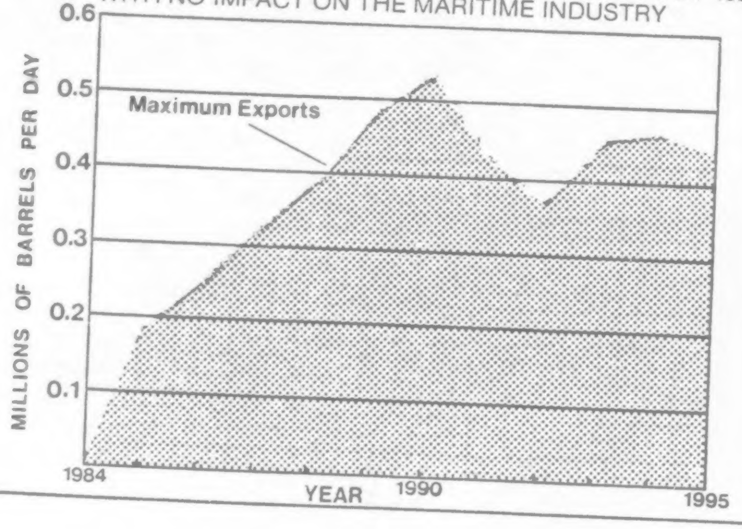
The substantial subsidy to the maritime industry and the high cost to taxpayers focus attention on the justification for an export ban. As noted earlier, and discussed in more depth later, a free market in Alaska oil offers the greatest national and energy security benefits. Hence the arguments in favor of continued restrictions center on the evaluation of the need to maintain benefits for the maritime industry.

From a public policy viewpoint, it is difficult to defend a policy which allows subsidies to increase, at the expense of achieving other policy objectives. Therefore, at a minimum, the most acceptable limitation of export would be at the level needed to protect the existing fleet or merchant marine force. There is no apparent justification for providing incentives for new workers and new ships to join the fleet and add to the national burden of an inefficient oil trade.

Given the age of the ships and the workforce, natural retirements over a few years will eliminate any need for protection of the Alaska oil trade. In Figure 16, we calculate the maximum oil exports possible without removing protection of the current workers or ships. As early as 1985, Alaska oil exports could be above 185,000 barrels per day and by 1990 over 530,000 barrels per day could be exported with no adverse impact on the existing tanker fleet and workforce.[26] This perspective suggests the possibility of a limited export ban, designed as a compromise between the demands for protection of the maritime industry and the need for enhanced security and economic efficiency. Under the condition of limiting subsidies to the existing industry, a substantial and increasing oil trade would be possible.

Figure 16

UP TO 533,000 BARRELS PER DAY COULD BE EXPORTED BY 1990 WITH NO IMPACT ON THE MARITIME INDUSTRY



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The previous sections discussed the free market for ANS crude and the impact of an export ban. Despite the high costs of the ban, Congress may wish to preserve some subsidy for the maritime industry. In this event, several compromise positions might be considered. For example, given the expected growth in the West Coast surplus, we might apply the ban to all but 200,000 barrels per day plus the growth in Alaska production from new oil fields. A portion of the exported oil might be shipped in U.S. flag ships, and the starting dates for the initiation of trade might be modified to minimize maritime impacts. Any combination of such compromises would have different effects on the subsidy to the maritime industry and the net cost to the nation.

If a policy is established which allows export of 200,000 barrels per day plus new field production after 1984, allowable exports would be as follows:

(Thousands of Barrels Per Day)

	1984	1985	1990	1995
Maximum Allowable	200	287	420	278
Profitable to Export	200	287	420	126

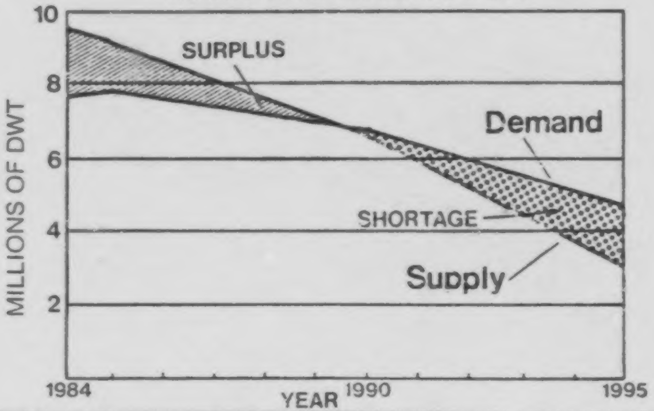
Our previous analysis of producer profitability indicates that this partial lifting of the ban would lead to the export of the maximum allowable volume in the 1984-1990 period. After 1990, however, as the production on the North Slope declines, the oil companies will find it profitable to export less, only 126,000 barrels per day in 1995, regardless of the higher allowable limit.

In the event of a partial lifting of the export ban, the precise allocation of exports among the major oil companies is speculative. ARCO would still find the West and Gulf Coast markets the most profitable, and thus would not enter the export trade. Both Sohio and Exxon will continue to find it profitable to export a portion of their North Slope production. However, the total export volume desired by Sohio and Exxon combined will exceed a 200,000 barrels per day plus new production maximum in the 1984-1990 period. The division of the total allowable export volume between the two companies is indeterminate at this time, as the profitability of exporting is the same to both companies. However, it appears certain that the two companies together would export the full 200,000 barrels per day plus new production maximum through 1990. After 1990, this ceiling may no longer be binding as Exxon and Sohio's Alaska production declines and they continue to meet West Coast demand.

MARITIME SUBSIDIES ARE REDUCED

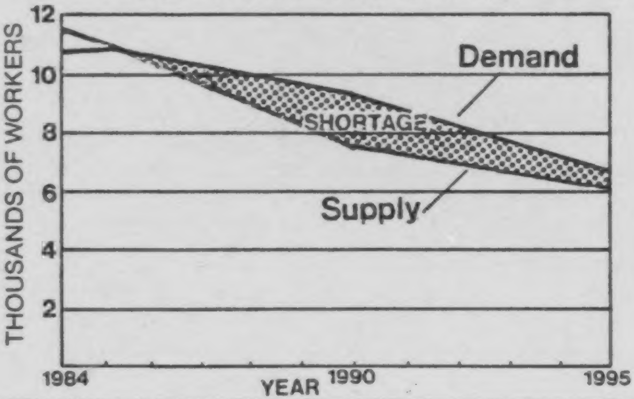
With exports of only 200,000 barrels per day plus new production, the tanker surplus in 1984, relative to the free market, would be reduced from 1.5 million DWT to 1.3 million DWT. By 1990, however, this surplus of vessels would become a shortage as older tankers retire and the production of Alaska oil peaks. As shown in Figure 17, in 1990, even with the export of 420,000 barrels per day (representing new production since 1984 of 220,000 barrels per day), nearly 270,000 DWT of new vessels would be needed to meet demand. By 1995, this shortage would grow to 1.7 million DWT as more vessels in the existing tanker fleet retire.

Figure 17
LIMITED EXPORT BAN
TANKER SURPLUS/SHORTAGE

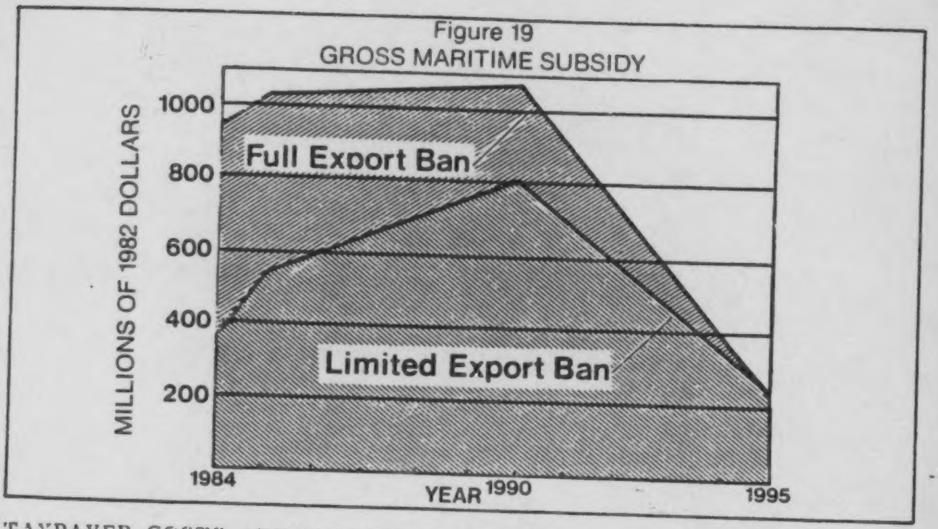


Recall from Figure 9 that in the free market scenario there was a surplus of merchant marine seamen until 1989. With a partial export ban of all but 200,000 barrels per day plus new production, the surplus would be only 640 workers in 1984. By 1985, however, this surplus would become a shortage as workers turned 62 and retired; see Figure 18. By 1990, the demand for tanker employees would exceed the existing supply and require that 1,700 new workers be hired to meet demand.

Figure 18
LIMITED EXPORT BAN
WORKER SURPLUS/SHORTAGE

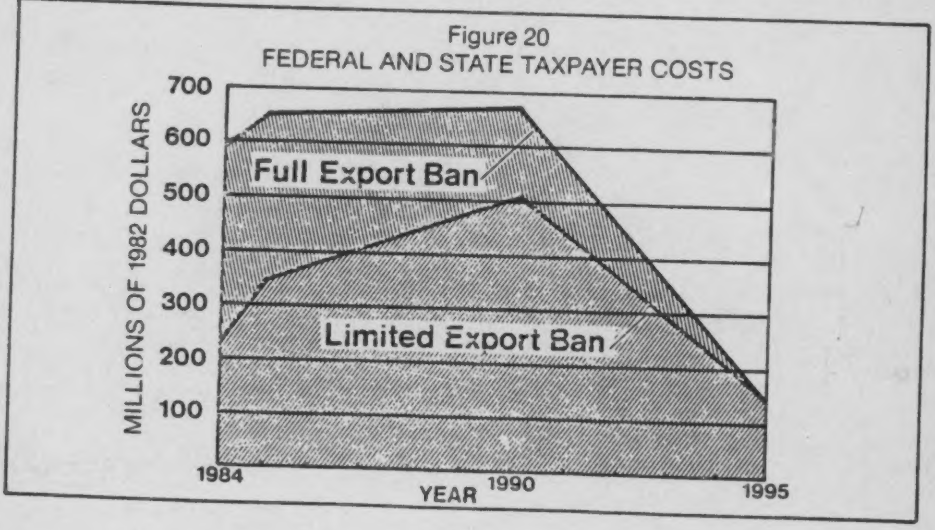


Under the partial export ban, the cost of this subsidy to the maritime industry would be much less than under the full ban. Except for a short initial period, all existing workers would be employed and the tanker surplus could gradually disappear. As shown in Figure 19, the gross subsidy would drop rapidly over time. By 1990, the cost of the gross maritime subsidy would be $340 million compared to a subsidy of $496 million with a full export ban.



TAXPAYER COSTS ARE REDUCED ALSO

The limited export ban would reduce the gross subsidy to the maritime industry and would correspondingly lessen the impact on taxpayers. Wellhead prices and resulting tax payments would approach their free market levels. In Figure 20 we present the revised estimate of taxpayer costs as compared to the full export ban case. As indicated, the limited export case, which still protects existing jobs, greatly reduces the cost to taxpayers. The limited export case costs federal and state taxpayers $242 million in 1984, compared to a cost of nearly $600 million with a total ban. By 1990, the taxpayer cost of the partial ban would be $509 million versus $687 million with the total ban.



U.S. FLAG VESSELS COULD BE REQUIRED

A further subsidy to the maritime industry could be provided by requiring that all crude oil shipped to the Far East travel on U.S. flag vessels. The rate per barrel of using U.S. flag vessels from Valdez to Yokahama has been estimated at approximately $1.10 per barrel.[27] The quantity of oil exported would not change because the after-tax decline in production profitability would only decline by $0.07 per barrel. Sohio would still find the Far East to be a more attractive market than the Gulf Coast. The present value of the gross subsidy to the maritime industry would be $1.0 billion (relative to the free market) over the 1984 to 1995 period if the limited export quantities were shipped in U.S. flag vessels. The demand for tankers and maritime employees would approximate the export ban levels except to the extent that distances are shorter to the Far East and that ocean-going vessels require fewer seamen per barrel of oil.

Not only does the export of Alaska oil benefit the U.S. economy, but it also enhances both the nation's energy security and its overall military security. Export of crude oil would:

- Improve energy security by enhancing U.S. ability to limit the damage caused by disruptions in oil supply.
- Reassure Japan and other Pacific allies that the United States will honor its commitments to the International Energy Agency.
- Maintain and strengthen the U.S. military position in East Asia.

ENERGY SECURITY WOULD IMPROVE

Ever since the oil shocks of 1973 and 1979, Americans have been acutely aware of the energy dimension of our national security. But they have not always understood the nature of the threat or the appropriate responses. Some people think that the problem is one of securing the physical supply of oil, and that if we do so (for example, by restricting imports to "safe sources" like Mexico), we could avoid damage to the United States. But this is not the case. Even if all our imports came from a physically safe source like Mexico, the United States could suffer direct damage to its economy and indirect damage to its foreign policy interests.

There are three reasons why physical availability is less important than price effects. The major reason is that oil is a fungible commodity on world markets. As was discussed in Chapter 2, any shortfall anywhere quickly drives up prices everywhere. The price of Mexican (and Alaskan) oil would be driven up by other countries trying to replace the oil they lost from a disrupted Persian Gulf source. Indeed, a country like Japan which is 99 percent dependent on imported oil would have even stronger incentives to bid for undisrupted oil than would the United States which is two-thirds self-sufficient. Experience in 1973 and 1979 shows that under such conditions, contracts would be renegotiated, the price of oil imports to Japan and the United States would eventually reach the same high level, and the shortfalls would be roughly the same in both countries.

Second, the extent of U.S. energy security cannot be measured solely in terms of imports. Imports are only part of the equation. Imports measure U.S. dependency, but not vulnerability. In the case of most commodities, some dependence on foreign sources is tolerated. Supply interruptions are insured against by maintaining multiple sources and stockpiles. The degree of vulnerability depends not only on the level of imports, but also on the remedial instruments and policies that are put in place.

The export of Alaska oil only slightly affects this vulnerability equation, and certainly does not matter in terms of physical security of oil. The United States produces some 7 million barrels per day from states other than Alaska, more than 14 times the daily requirements of the armed forces. The physical security of the 700,000 barrels per day transshipped by canal or pipeline across Panama would not make much difference to the damages the U.S. economy would suffer from a global disruption. In fact, the trans-Panama oil may itself be vulnerable some day if guerrilla movements or political instability spread in Central America. The point remains, however, that physical availability will be less important than price effects for the American economy, no matter what the source of the imported oil, and those price effects can be reduced by sensible stockpile and emergency demand restraint measures.

Third, the nature of the world oil market is such that the United States does not have much to fear from an Arab oil embargo targeted against it. The Arabs tried to use their oil weapon in connection with the Arab-Israeli Wars of 1956 and 1967, but it failed because of surplus world oil production capacity. It partly succeeded in 1973 because of tightness in world markets. But even in 1973, the burden of the cutback of Arab oil production fell roughly evenly on all countries, though the embargo was officially targeted against the United States and Netherlands for their pro-Israeli policies. Essentially, the workings of the market described above raised prices and distributed the shortfall among consumers. Since that time, the consumer countries have backed up the market forces by agreeing to an emergency oil sharing plan under the auspices of the International Energy Agency (IEA) in Paris. Thus the dangers of an embargo targeted against a particular country are slight.

FOREIGN POLICY OBJECTIVES WOULD BE ACHIEVED

In addition to the direct damages that an oil disruption anywhere can do to the American economy, U.S. security can be indirectly damaged by negative effects on its foreign policy. In the bipolar and interdependent world that has existed since 1945, American security has rested on U.S. leadership of the Western alliance. The prosperity and security of the democratic alliance has been central to the post-war balance of power. The great centers of industrial and technological strength, Europe and Japan, though geographically closer to the Soviet Union, have been politically allied to the United States.

In fact, differences in our allies' vulnerability to energy disruption present the Soviets -- and others -- with better opportunities to disrupt Western alliances than direct military threats. Europeans and Japanese, for example, might respond positively to Soviet pressure or offers to guarantee energy supplies if they thought they could not rely on the United States. Western policies toward Israel show a similar tendency to reflect different degrees of economic exposure to Arab wrath. American desire to maintain our alliances leads it to spend hundreds of billions of dollars in the military budget. It would be ridiculous at the same time to ignore the threats that energy security can pose to those allies and to larger U.S. foreign policy. Not only Japan but other countries of the Pacific Rim are important to the nation's security. To refuse to sell oil to them is inconsistent with other U.S. assurances of support.

Even if the United States tries to reduce its own vulnerability to oil supply disruptions by reducing imports of crude oil, it will remain at risk because of its interdependence with allies who are less able to reduce their dependence on imports. This is particularly true for a country as dependent as Japan. Nixon's ill-fated "Project Independence," which aimed to eliminate imports by 1980, diverted attention from this broader dimension of the problem. Nor will this situation change quickly. Even if Japan's ambitious energy program continues to be successful, Japan will still depend on oil imports for half its energy needs in 1990.

Ironically, the United States already exports approximately 650,000 barrels per day of petroleum products to other countries including Japan (108,000 barrels per day) and the Soviet Union (6,000 barrels per day).[28] It makes little sense to impose a ban on exports of crude oil which consumers cannot use and which is in a large surplus situation on the U.S. West Coast while at the same time permitting export of useful petroleum products.

The United States and Japan are the two largest oil importers in the world. Together they account for half the purchases of oil in world trade. There is no way to avoid this interdependence in world oil markets. By failing to cooperate the United States can make it a negative factor; by cooperating we can turn it into a positive factor. Abrogating oil sales to Japan in a time of crisis would not reduce damage to the United States for reasons already described. It would merely add foreign policy damage to the economic damage. The United States is already committed under the IEA agreement to share all available oil in times of emergency. (This is currently recognized in the Export Administration Act.) And if there were no oil-sharing plan, or if it failed to work, Japan with its extreme energy insecurity, would be forced to bid even higher prices for whatever oil was undisrupted in the world. The net effect of failing to cooperate would be higher costs to all: higher oil prices, foreign policy costs, and disarray in U.S. alliances. Clearly American energy security cannot be isolated from foreign policy.

Ironically, by prohibiting the export of ANS oil under normal conditions, the Unites States scares the Japanese about its cooperative intentions and reduces its flexibility in a period short of crisis. The major effects of the IEA are its reassurance, and its role as a forum for informal cooperation in situations which fall short of a full crisis. It is worth remembering that oil prices doubled in 1979 as a result of trivial shortfall (below the 7 percent that would trigger the IEA plan) because of expectations and panic build-up of stocks in a period of tight supply. Reassuring and calming the extremely vulnerable Japanese response in tight spot markets can help to smooth price spikes and reduce economic damage. If the United States continues to ban exports, it reduces that reassurance and reduces its flexibility in periods short of crisis. It also undercuts the reassurance of cooperation that is the official U.S. energy security policy.

The export of Alaska oil would also enhance U.S. relations with other allies. The Mexican economy would benefit from the potential to sell more oil to the U.S. Gulf Coast. Declining oil demand has recently threatened to back out Mexican oil in several markets, a situation the Mexican economy can ill afford. Other allies which would look to the United States for support in a time of energy crisis, such as Israel, would be encouraged to see U.S. willingness to trade oil in a noncrisis atmosphere.

MILITARY SECURITY WOULD BE STRENGTHENED

As described above, the U.S. alliance with Japan has been a crucial factor in its foreign policy. Not only is Japan the second largest economy in the free world, but its geographical location makes it critically important in the East Asian balance of forces. A January 1983 report on The U.S.-Japan Relationship in the 1980s by the Security Conference on Asia and the Pacific (SECAP) states that "the military power of the Soviet Union has grown inexorably over the past decade, as have Moscow's deployment in Asia of naval, air, and ground forces. These developments increase the need to strengthen and broaden the coordination of long-term U.S. and Japanese strategic policy...."

At the same time, the SECAP report goes on to note that "events of recent years have clearly shown the difficulties of dealing separately with the economic and security problems faced by the two countries. Trade and defense issues have been linked politically in the United States.... Of immediate and particular concern to the future of the U.S.-Japan tie are signs of eroding American public support for sustaining an open and intimate relationship." Protectionist pressures in Congress may lead to a situation where "political, economic and defense problems reinforce each other in a spiral of negative interactions." Since the causes for trying to prevent the export of Alaska oil are basically protectionist rather than energy security, such efforts contribute to this potential damage to U.S. military security.

Not only do tensions arise from protectionism and trade disputes, but there are difficulties intrinsic to the military relationship itself. The United States and Japan perceive their security problems in quite different ways. As the leader of a global alliance, the United States is concerned with balancing Soviet military power. It continually presses the Japanese to raise their military expenditure, expand their "self-defense" missions, and procure better armaments. For historical reasons rooted in World War II and constitutional restraints on military missions other than self-defense, the Japanese are resistant to this American pressure. Moreover, given their dependence on raw material and energy imports, the Japanese tend to define security in more comprehensive and economic rather than military terms. Thus there is tension over appropriate policies and burden sharing in the defense relationship.

American willingness to export Alaska oil makes a modest contribution to moderating some of these tensions. Rather than always hectoring the Japanese about raising military expenditure, the United States can reassure its ally in a key area of security as seen from the Japanese perspective. This would help to reduce the tensions in the security debate.

CONCLUSIONS

Those who wish to continue to prevent the export of Alaska oil have tried to justify such interference in the free markets by appeals to national security. Upon careful analysis, the arguments that export of Alaska oil diminishes American energy security turn out to rest on misunderstandings of the problem. On the contrary, both in terms of direct effects on American energy security, and indirect effects of energy issues on foreign policy, the export of Alaska oil is a net gain for national security. In addition, by removing a source of tension and making a reassuring move in the defense debate between the two countries, military security as well as energy security is enhanced by exports.

This section summarizes the net benefits of removing the ban on export of Alaska oil and allocates the gains and losses to the various parties involved: oil companies, maritime employees, the U.S. Treasury, and the State of Alaska. As discussed above, there is no adverse impact on consumers under any export policy for Alaska oil.

The summary of cost and benefits reflects the perspective of the major interest groups and the net effect on the nation. Because the export ban significantly interferes with normal market activities, it causes a significant redistribution of income. Hence, a large portion of the costs and benefits come in the form of transfer payments, from taxpayers and oil companies, to the maritime industry. The cost accounting we employ depends on assumptions about the alternative uses of the resources now used for the Alaska oil trade. For instance, if tankers and seamen could be applied productively in other areas, then the full transportation differential represents a loss to the nation. However, if the tankers and seamen would be otherwise unemployed, then only part of the inefficiency is a drain on the nation.

To present a conservative analysis of the cost of an export ban, we assume that maritime ships and seamen have no alternative uses. Therefore, the equity and wage components of transportation represent transfer payments but not a net loss to the nation. Furthermore, we assume that even with a surplus of tankers or workers, there would be no reduction in the U.S. flag transport costs. Again, this understates the cost of the export ban for lower rates would benefit other trades also. For other oil industry costs, we assume that prices reflect true variable costs.

With this background, the cost to net national welfare imposed by an export ban can be identified. Under competitive market assumptions, the nation will lose an amount equal to the increase in total world variable costs of oil shipment. For each barrel of oil shipped to the Gulf Coast instead of to Japan, the nation will absorb a reduction in netbacks to the wellhead and an increase in transport costs.

The net transportation loss per barrel from the ban can then be calculated as follows:

	Variable Costs of Shipments
Export Allowed	
Valdez to Japan	$0.50
Persian Gulf to U.S. Gulf Coast	1.60
	$2.10
No Exports Allowed	
Valdez to U.S. Gulf Coast	$2.92*
Persian Gulf to Japan	0.75
	$3.67
Net Loss From Export Ban	($1.57)

Assuming the free market level of exports described in Chapter 2, the net loss from the ban to the United States (in real 1982 dollars) will be $282 million in 1984, increasing to $325 million by 1990.

While this net cost per barrel may establish a proper measure of the aggregate costs, it disguises the even larger redistribution of income through transfer payments. Each barrel of oil shipped to the Gulf Coast reduces windfall profits and income tax payments to the federal government, royalty and severance tax payments to the State of Alaska, and the residual after-tax profits of the oil companies. In turn, the transportation cost to the Gulf Coast, in addition to the variable cost already identified, includes payments to seamen and tanker owners, who then pay higher income and corporate taxes. Using the profitability analysis described in Chapter 2, one can separate the first-round impacts of these payments and characterize the gainers and losers from an export ban.

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* The relevant variable costs are the variable costs of shipping from the Persian Gulf to Japan ($0.75 per barrel) and the variable cost of shipping from Valdez to the U.S. Gulf Coast. To estimate the latter figure one needs to deduct the profit contribution ($1.66 per barrel) from the rate charged for shipments to the Gulf ($5.25 per barrel). In addition, because we are accounting for lost wages in the maritime industry as a transfer payment, we must also deduct the wages paid to workers employed in the Valdez-Gulf trade ($0.67 per barrel, using MARAD operating costs). The net variable cost to transport from Valdez to the Gulf Coast then becomes $2.92 per barrel.

The distribution of gains and losses on a per-barrel basis is shown in Table 4. As indicated, the major beneficiary is the maritime industry. The major losers are the federal Treasury, the State of Alaska, and, on a smaller scale, the oil companies. Combining the changing volume of oil exports, we display in Figure 21 the principal gainers and losers over the next decade. Figure 22 converts these same data into the net present value of the gains and losses from 1984 through 1995 (assuming a 5 percent real discount rate).

Figure 21
NET ANNUAL BENEFITS AND LOSSES FROM ALASKA OIL EXPORT BAN

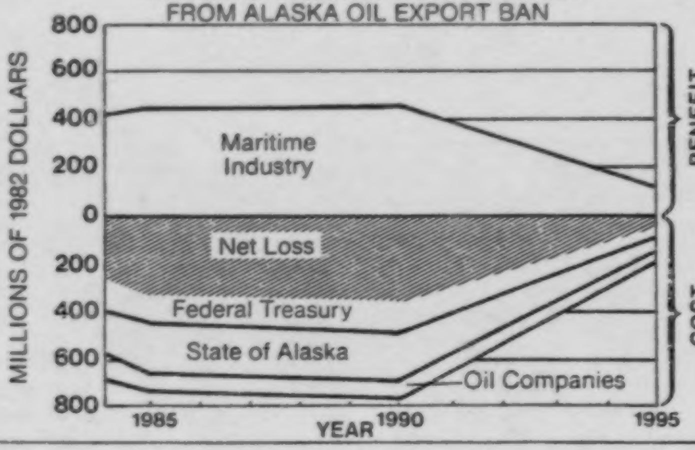

Table 4

ALASKA OIL EXPORT BAN
PER BARREL IMPACTS IN U.S. ECONOMY
(1982 Real Dollars)

U.S. Maritime Industry	Wages and Profit	Federal Tax Paid	State Taxes	Net National
Profits	+$1.66[a]	0[b]	--	+1.66
Wages	+$0.56[a]	+0.11[c]	--	+0.67
Oil Company				
Profits[d]	-$0.47	-2.42	-1.01	-3.90
TOTALS	+1.75	-2.31	-1.01	-1.57

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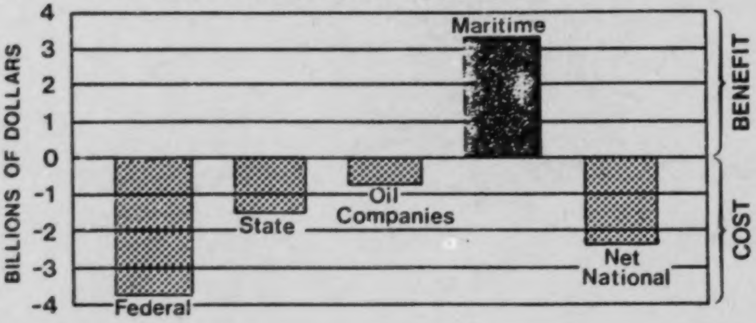
[a] See footnote 6 for assumptions.

[b] Assumes that IRS Revenue Ruling 75-483 effectively eliminates taxation on oil shipment profits.

[c] Assumes 17 percent average tax bracket.

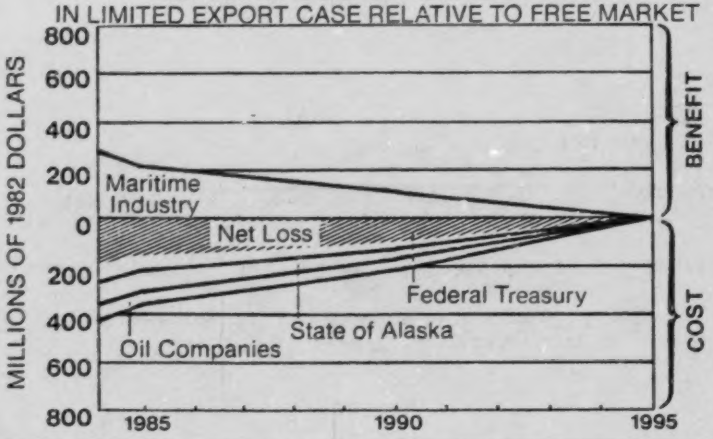
[d] Oil company profits are apportioned 12 percent to shareholders, 62 percent to the federal government, and 26 percent to the State of Alaska.

Figure 22
ALASKA OIL EXPORT BAN SUBSIDIES



These substantial costs to the nation are avoidable. As indicated earlier, one compromise that would avoid the worst case costs of a full export ban but still provide a generous degree of protection to the existing maritime industry would be a limited export ban. In Figure 23 we see the resulting gainers and losers under a limited ban, relative to the outcome in a free market. The added net cost to the nation in present value terms would be approximately $800 million.

Figure 23
NET ANNUAL BENEFITS AND LOSSES
IN LIMITED EXPORT CASE RELATIVE TO FREE MARKET



Although the costs of the limited export ban would still be substantial, such a policy would not force the nation to forgo the security and other benefits of cooperation with Japan. And the limited ban, on all save 200,000 barrels per day plus new production, would avoid the self-inflicted wound of building new tankers and hiring new seamen for the purpose of enjoying the protective subsidy from the Alaska oil trade.

NOTES

1 Merchant Marine Act of 1920, Preamble.

2 The Jones Act: Its Impact on the State of Alaska, Simat Helliesen & Eichner (SH&E), Inc., Boston, Mass., July 1982, Appendix B-4.

3 Marshall Hoyler, Testimony before the Subcommittee on International Economic Policy and Trade, 12 April 1983, p. 2.

4 The issue of delivered price is discussed later in the section "Impact on Consumers."

5 The Export of Alaskan Crude Oil, an analysis attributed to a major oil company. We attempted to verify this estimate using two other sources. First, we estimated $0.77 per barrel using MARAD data found in "Estimated Vessel Operating Expenses, 1981," U.S. Department of Transportation, Maritime Administration, June 1982. We assumed that an 80,000 DWT vessel would make 26 trips per year at a 95 percent capacity factor. MARAD variable costs for this size vessel were calculated at $8,783,015 per year assuming 345 days operation, 290 days at sea and 55 days in port. Total variable operating costs per barrel are calculated at $0.63 per barrel, so that the operating contribution is $0.77 (or the $1.40 rate less $0.63).

Second, the SH&E report cited in Footnote 2 indicated a profit of approximately $0.44 per barrel, based on a return on capital of 31.3 percent on the rate of $1.40 per barrel. We adopted the $0.50 per barrel estimate because it fell between the other two estimates.

[6] The costs in the SH&E report cited in Footnote 2 yield a profit of about $2.40 per barrel ($5.25 rate less $1.00 for Northville Pipeline less $1.84 variable cost per barrel).

The MARAD data yielded the $1.66 per barrel estimate, which we adopted. The MARAD figure was obtained by subtracting the Northville Pipeline cost ($1.00 per barrel) and vessel operating costs from the $5.25 per barrel rate. Vessel operating costs were estimated as follows. The variable costs for shipping from Valdez to Panama on an 80,000 DWT vessel at 11 trips per year are $1.53 per barrel, using the same cost assumptions as described in Footnote 5. The variable cost for shipping from Panama to Houston on a 37,500 DWT vessel at 26 trips per year are $1.06 per barrel, using a total annual variable cost of 7,110,545 as provided by MARAD. The total operating cost for the two vessels is therefore $2.59 and the net operating contribution is $1.66 ($5.25 - $1.00 - $2.59).

The Export of Alaskan Crude Oil stated that the shipping profitability to the Gulf Coast is $1.00 per barrel. We adopted the $1.66 per barrel figure because it represents the middle estimate.

[7] Internal Revenue Service, Ruling 75-483.

[8] Testimony of Mr. Ron McGimpsey, Senior Vice President for Crude Trading and Transportation, Sohio, 23 February 1983, before U.S. House of Representatives, Committee on Energy and Commerce, Subcommittee on Oversight and Investigations.

[9] Personal Communication, Margaret Felts, California Energy Commission.

[10] California Energy Commission, in Report to the California Legislature Assembly Committee on Natural Resources, 8 March 1983.

[11] Northville Industries is a privately held corporation headquartered on Long Island with interests in oil transportation and storage.

[12] Larger vessels are assumed to retire at a younger age due to the stress endured in their travels in open seas. The Maritime Administration generally assumes that Very Large Crude Carriers retire between the ages of 10 and 15, while smaller tankers used in coastal trade retire between the ages of 25 and 30.

[13] U.S. Maritime Administration.

[14] "Estimated Vessel Operating Expenses, 1981," MARAD.

15 Oil & Gas Journal, 27 September 1982, p. 13.

16 Ibid.

17 Petroleum Intelligence Weekly, 13 December 1982. Saudi Arabian crude output capacity is 11 million barrels per day.

18 The Honorable Drew Lewis, Secretary of Transportation, "Memorandum for Cabinet Council on Natural Resources and Environment," 4 November 1981.

19 California Energy Commission, Export Restrictions on Domestic Oil: A California Perspective, November 1982. This report states: "Disappearance of the 'West Coast discount' might also tend to increase consumer energy prices if higher crude prices were passed through. The current discount is so marginal, however, that it might just be absorbed by refiners worried about losing market share in downstream products. It is possible that there would be no net change in this crude price at all, for the disappearance of the discount could be balanced by lower transportation costs between Alaska and California" (p. 38).

20 Oil & Gas Journal, 31 January 1983, p. 75.

21 ARCO production and pricing of ANS crude is the subject of Congressional Hearings examining ARCO treatment of integrated profits. We assumed that in the long run, ARCO activities conform to the market and profitability analysis above.

22 Testimony of Robert J. Doyle, Vice President, Exxon Corporation, 23 February 1983.

23 Assuming that vessels make 11 trips per year from Valdez to Panama, 26 trips per year from Panama to Houston, and operate at 95 percent of capacity.

24 The gross subsidy to the maritime industry is calculated as the transportation rate of shipping the oil times the number of barrels that would have been shipped to Japan without the ban ($5.25 per barrel x 493,000 barrel per day x 365 days).

25 Lost tax revenues to the federal government are defined as the difference between windfall profit and corporate income taxes with and without the export ban. For every barrel of Alaska oil shipped to the Gulf rather than the Pacific Rim export market, windfall profits and federal income tax payments by the oil companies are reduced by \$2.43 (see Table 1). Partially offsetting this loss in revenues are higher income tax payments by maritime workers. Based on average maritime salary of \$36,000 (for six months' work), an average effective income tax rate of 17 percent,. federal tax revenues would be 11¢ higher for every barrel of oil shipped to the Gulf rather than exported. The net impact on federal revenues is thus an increase of \$2.32 per barrel for every barrel exported. Thus annual federal tax losses due to the export ban =

Free market exports x 365 x \$2.32
(barrels per day)

Lost state tax revenues are defined as the difference between severance and royalty taxes with and without the export ban. As shown in Table 1, the per-barrel tax loss of shipments to the Gulf rather than the export market is \$1.00. Thus annual state tax losses resulting from an export ban =

Free market exports x 365 x \$1.00
(barrels per day)

26 The volume of oil which may be exported with no impact on the domestic maritime industry is dependent on the future supply of tankers and workers. The future supply of tankers is determined assuming that the existing fleet retires at age 15 if greater than 120,000 DWT and at age 26 if less than 120,000 DWT. The only new additions to the fleet are assumed to be vessels currently on order. The future supply of workers is calculated using age distribution data of the existing workforce and assuming that workers retire at age 62.

The volume of oil which may be exported without affecting the tanker fleet is the "shortage" of tankers which results if no oil is exported as shown in Figure 13. This shortage is then converted to a barrels per day equivalent assuming that vessels in the West Coast crude trade make 15 trips per year and those in the Gulf Coast take more than 26 trips per year. Thus every DWT of "shortage" is viewed as the volume of oil which could be exported without any surplus capacity in the domestic fleet.

The export volume which would have no impact on the existing tanker workforce is similarly calculated by converting the worker shortage under the no-export scenario into barrel per day equivalent units. On average, one worker is required for every 667 DWT of domestic tanker demand. And each DWT makes on average 15 trips per year carrying seven barrels of oil. Using these conversion factors, the projected worker "shortage" in the no-export scenario was converted to barrels per day to determine the export volume which would not affect the existing workforce.

In all years except 1995, the constraint on the export volume was the tanker supply. In other words, the volume of oil which could be exported without affecting the utilization of the domestic tanker fleet was lower than the export volume which would cause unemployment in the maritime workforce. By 1995, however, the natural retirements of the tanker fleet result in a situation where exports would result in unemployment before they would cause underutilization of the fleet.

The maximum export volume which would have no adverse effect on either tanker utilization or worker employment is:

1984	1985	1990	1995	
No exports	185,000	533,000	310,000	Barrels per Day

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[27] California Energy Commission, op. cit., p. 121.

[28] U.S. Department of Energy, Petroleum Supply Monthly, Table 23, various issues.

Senator MURKOWSKI. Thank you, Dr. Hogan.

I was interested in your comment on the $5.7 billion flow as opposed to the subsidy of about $3.3 billion and your indication that basically the Nation was losing about $2.4 billion because of the prohibition.

Was that assumption made using foreign bottoms?

Mr. HOGAN. That calculation was based on an assumption that the oil transported to Japan under export would be done in foreign bottoms, that is correct.

Senator MURKOWSKI. In your opinion, what would be the loss if it were sent in U.S. bottoms?

Mr. HOGAN. I do not remember precisely, but I can provide that information for the record. I think it is on the order of two-thirds of the totals that I mentioned.

Senator MURKOWSKI. So two-thirds of the total of the $2.4 billion loss?

Mr. HOGAN. To the maritime industry.

[The information referred to follows:]

Net Economic Impact of Shipment of Alaska Oil to Japan in U.S. Tankers

If the ban on the export of Alaska oil were lifted but such exports were shipped in U.S.-flag vessels, the net loss to the nation would be $285 million over the 1984–1995 period. This compares favorably with the net loss of $2.4 billion which results from the total ban on exporting Alaska oil. The present value of the subsidy to the maritime industry resulting from the requirement that exports be shipped in U.S. vessels would be $542 million over the same period. This subsidy is less than one-fifth the magnitude of the subsidy which would result if the export ban were continued.

As explained in our report, U.S. maritime interests are the primary beneficiaries of the export ban for three reasons: they enjoy monopoly access to the Alaska oil market, they travel a longer and more expensive route, and they are less efficient than international tankers. By removing the export ban and requiring that exports be shipped in U.S. bottoms, domestic tankers will have an alternative to traveling the long and expensive route of the Gulf. Thus the magnitude of the subsidy to the maritime industry will reflect only the difference in operating costs between United States and international tankers, not the longer mileage. The result is a lower subsidy from U.S. taxpayers to the maritime industry.

The net loss and subsidy calculations are based on an estimated rate of $1.10 to ship one barrel of oil from Valdez to Yokohama in U.S. flag vessels. As shown in our report, the net loss to the nation will equal the increase in total world variable costs of oil shipment. For each barrel of oil shipped to Japan in U.S. bottoms rather than foreign bottoms, the nation will absorb reduced netbacks at the wellhead and increased transportation costs. This net loss is 20¢ per barrel, based on variable costs for domestic tankers of 70¢ per barrel as compared to variable costs for international tankers of 50¢ per barrel. The export ban results in variable costs for U.S. vessels which are $1.57 per barrel higher than international costs.

Our estimates of the variable costs, profits and wages associated with transporting oil from Valdez to Yokohama in U.S. bottoms are based on the known costs of transporting oil from Valdez to the Gulf. We then adjusted these known costs to account for the lower rate per barrel shipped and the shorter distance traveled.

Senator MURKOWSKI. I asked a previous witness about the perception concerning this Nation's deficit balance of payments with Japan and the perception of whether or not we really wanted to look at Alaska oil as an offset potentially, or if we preferred to use that as a bargaining chip for certain concessions from Japan.

Do you have any perceptions yourself, or have you had an opportunity to draw any conclusions on that rationale?

Mr. HOGAN. Well, I think there are two principal sides to that. The most important observation that has been made is that bilateral trade balances, although they have a great deal of optical importance in the political debate, are not, from an economic perspective, anywhere near as important as the total trade balance of the country with the rest of the world.

And since we would increase oil exports on the one hand but increase oil imports on the other hand in order to balance the flows, the net effect is negligible. Now that is the economic answer.

Now the political answer, which you are a better judge of than I, is that it is a tool in negotiations with the Japanese and you would use all the tools that you have at your disposal in trying to package some kind of an arrangement. I think it would be quite wise if we are going to enter this market to do so in a way that was timed to coordinate with other negotiations with the Japanese in order to strengthen our hand across the board.

It is hard to imagine that this would not be a significant tool for us to use, for many of the reaons that I mentioned related to the security problems that the Japanese have.

Senator MURKOWSKI. Dr. Hogan, with regard to the west coast discount, do you have any feelings as to how real it is and what it consists of?

Mr. HOGAN. It is a difficult issue to pin down because you are talking about principally vertically integrated companies dealing with their own ships and own refineries in that region. The accounting conventions that are established for dealing with those netbacks involve long-term prices that do not fluctuate with day-to-day movements in the spot market.

So I think it is a difficult issue to pin down. The California Energy Commission, which has a vested interest in this, concluded that it was not a significant issue and we tend to agree with that conclusion. As a practical matter, in doing our analysis we assumed that there would be no change in the west coast price of oil as a result of exports because of the profitability analysis I mentioned before.

It is currently most profitable for those companies to continue to ship their oil from Alaska to the west coast and that profitability would not change if we change the export limitation. Therefore, the same volume of oil would flow to the west coast and, therefore, we assumed it would have no effect on the prices in that region.

Now if there were an effect on the prices, that would increase some of these transfer payments and the like. But the figures that I cited, I believe, are conservative estimates of the total cost to the country and the size of the transfer from taxpayers to the maritime industry.

Senator MURKOWSKI. You made the point in your testimony that you felt to lift the export ban would result in basically more jobs. Would you care to expand on that a little bit? Assuming the oil is going to move in U.S. bottoms, do you foresee jobs being lost in the maritime industry, or do you foresee——

Mr. HOGAN. It depends on the time frame you are talking about, Senator. In the early years there are job losses in the maritime industry because there would be a surplus of capacity, shipping capacity. This is assuming you do not use U.S. tankers to go to Japan. There is a surplus of capacity as the oil is exported to Japan.

Senator **Murkowski**. Suppose you do use the tankers to go to Japan.

Mr. **Hogan**. That surplus is significantly reduced and in fact it is possible to export a couple hundred thousand barrels per day without idling any maritime capacity.

Senator **Murkowski**. Have you looked to see if the reduction would correspond with the phasing out of older ships that would have to be replaced anyway or their operating costs would become so high that they might as well be replaced?

Mr. **Hogan**. Yes. That is the kind of analysis that we did in our report and the details are summarized there. In essence, we said that in the early years, 1984, 1985, it might be a couple hundred thousand barrels per day, but by 1990 would rise to about 500,000 barrels per day of exports without affecting the existing ships and the existing maritime seamen's work force.

Senator **Murkowski**. You made quite a point of international security interest. Do you foresee this as a potential strategic petroleum reserve to some of our Asian neighbors, or is this really just symbolic because obviously if you are talking about a couple hundred thousand barrels of oil you are talking about a relatively small amount in relationship to, I think Japan is probably utilizing 2.5, 3 million barrels a day now.

Mr. **Hogan**. Well, I do not see it as a strategic petroleum reserve. The principal feature of the strategic petroleum reserve is the capacity to quickly surge and provide an influx of oil to the market as opposed to maintaining production over a long period of time. The export of Alaska oil is more a method for the Japanese to diversify their sources of supply and for them to develop more confidence in our ability to cooperate during an emergency.

In 1979, for example, most analyses after the fact have concluded that it was panic in the oil markets of a relatively small scale driving up prices, which then led to the long-term contract prices moving up and all of the economic dislocation that occurred there.

That early panic should be avoided if possible and one way to do that is by improving cooperation with the other consuming nations, and this is a mechanism for improving that cooperation.

Senator **Murkowski**. You indicated in your statement that a phased lifting of the ban would have moderate impact on the maritime industry depending upon whether you use U.S. bottoms or foreign bottoms. I assume that the maritime industry is not convinced of that point by any means.

I am wondering if, in your own discussions with the maritime interests in preparing your report, you found any willingness to consider the view. Is there any sense of flexibility and how would you characterize current maritime opposition to the lifting of the export restrictions?

Mr. **Hogan**. I should let the maritime interests represent their own position in this matter. Let me just say that in the conversations that——

Senator **Murkowski**. That is one of the prerogatives of the Chair.

Mr. **Hogan**. I have not encountered any interest in this option. I am not sure how often it has been observed that the opportunity is there, and that is why I have raised it for your consideration, because of the existing age of the fleet and the seamen.

Senator MURKOWSKI. Is there any other observation on ways that maritime concerns could be mitigated, beyond carrying it in U.S. bottoms?

Mr. HOGAN. Well, I think that the only principal issue would be the quantity of export and what kind of a scale would be there, and this is a subject for negotiation.

Senator MURKOWSKI. We had one witness suggest anything over the current quantity we move. Do you have any comment on that?

Mr. HOGAN. I think that might be very difficult to implement. I like the principle, but the base line is changing over time because of different demand levels on the west coast and production levels in Alaska. This type of analysis requires you to take a single point in time, but our experience in legislation of trying to pick a point in time and then make everything relative to markets on that day has not been very encouraging, and I would not recommend that kind of a rule.

Senator MURKOWSKI. Well, Dr. Hogan, you have been saved by a complex series of circumstances. I have about 3 minutes to go over and vote. Rather than subject you and those in the audience to further proceedings, I think this is a good time to wrap things up for today.

I want to thank you particularly, Dr. Hogan, and the other witnesses who presented their testimony today. It has been most valuable. I, too, would invite you to submit for the record anything during the next few weeks.

Mr. HOGAN. Thank you.

Senator MURKOWSKI. Mr. Beyer, I have some additional questions that I would appreciate your answering and returning for the record. We will recess until tomorrow at 2 p.m., when we will reconvene this hearing.

There are a number of statements that will be entered into the record at that time. They will be announced. I wish you all a good day and we look forward to seeing you tomorrow. I hope it has cooled off outside.

Thank you.

[Additional questions and answers follow:]

MR. BEYER'S RESPONSES TO ADDITIONAL QUESTIONS SUBMITTED BY SENATOR MURKOWSKI

PRICE CONCESSIONS FOR THE JAPANESE

Question 1. Your estimate of costs and benefits reflects the judgment that the Japanese would be able to extract 25 percent of the $2.29/barrel additional earnings that might be obtained from exports. In other words, you assume that the Japanese will pay $0.57/barrel less than Alaskan crude's quality-adjusted world price.

(a) It's plausible to predict some price concession initially, as an inducement to refinery reconfiguration. However, why should we expect a 25 percent price concession persistently, over the entire period that exports occur?

(b) Other witnesses dispute your assumption. They contend that all Far East refiners will pay the quality-adjusted world price for Alaskan crude. They argue that Japanese refiners compete with each other and with Taiwanese and Korean and other refiners; they conclude that Japanese refiners cannot exert power as a single buyer might. How would you respond to their argument?

(c) The Japanese are also "principal market" for several other nations' crudes. Please provide evidence demonstrating that they persistently pay at least $0.57/barrel less than the quality-adjusted world price of those crudes.

Answer. In Robert R. Nathan Associates' study on the economic and financial consequences of exporting Alaskan crude oil,[1] one of the judgments underlying the analysis is that Japan would capture part of the financial savings through a price discount, estimated to be approximately 25 percent of the savings, or $0.57 per barrel. While the amount of the discount may be open to discussion, the likelihood of some price concession to Japan (as well as to other prospective purchasers in the Pacific Rim area) is well-established for several reasons:

1. Alaska's unique location is likely to cause price concessions to be negotiated by Japan and other purchasers in the Pacific Rim region. Because of Alaska's location, its crude oil has few alternative markets and, as a result, purchasers are in a position to negotiate price concessions. Aside from the U.S. west coast market, Alaska's next best alternative is the U.S. gulf coast; because of that next best alternative with the attendant additional transportation cost, Japan and other Pacific Rim countries would be in a position to negotiate a price lower than they would be able to achieve with other suppliers such as Saudi Arabia, Indonesia, Iran and others, all of whom have alternative markets in reasonable proximity to them. The current $2 per barrel difference between the price on the west coast and the U.S. gulf coast for Alaska crude oil is the best example of the consequences of Alaska's location and the pricing of its oil.[2]

2. With the properties of Alaskan crude oil, Japan's refineries would require reconfiguration to be able to accept large quantities of this crude. To some extent the quality discount reflects these properties of Alaska oil but at the same time Japanese refiners would most likely either need to discount further to reflect the product slate they could obtain from Alaskan crude versus other crudes, or invest in modifications of the refineries to allow for an appropriate mix of Alaskan crude oil. Because of the uncertain future of continued Alaskan exports to Japan (and other Pacific Rim markets), investment in refinery reconfiguration is unlikely. What would probably occur is a further discounting to reflect the lower value of products that can be produced from Alaskan crude.

3. It is thought by some that Japan's interest in diversifying its imports of crude oil would encourage it to pay a premium for Alaskan crude oil, or at a minimum to pay market prices, notwithstanding the other considerations and the reasons discussed here. Japan's imports of crude oil are already highly diversified (see Appendix Table 1). Moreover, for Japan to substitute, even at 300,000 barrels per day, Alaskan oil for existing suppliers would cause approximately an 8 to 10 percent substitution, which is a significant change in supplier relationships. Because of the extent of the potential substitution involved, there may need to be price concessions offered by Alaska and the North Slope producers to enter the Japanese market on any substantial basis, particularly since Alaskan oil would be a new entrant in a well-established market.

4. Due to the expected decline in Alaskan crude oil production and hence the availability of oil for exports, there is an uncertain future for the duration and magnitude of Alaskan oil available for importing by Japan and other countries in the Pacific. This uncertainty could, in itself, result in price concessions to purchasers for long-term contracts.

Notwithstanding these reasons for expecting a price concession to the Japanese and other purchasers of Alaskan crude oil, I have estimated the financial and economic consequences that would occur with exports of 300,000 barrels per day (b/d) assuming there is no price discount to Japan and other purchasers. The results of incorporating this assumption into the analysis are presented in Table 1. Compared to the estimate of financial and economic consequences in RRNA's study, the absence of price discounts to Japan would lead to:

Increased financial gains to the State of Alaska, Federal Government, and the oil producers of $60 million annually;

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[1] Robert R. Nathan Associates, Inc., "The Economic and Financial Consequences of Exporting Alaskan Crude Oil," Washington, D.C., May 1983.

[2] The transportation discount on the U.S. west coast of approximately $1 per barrel estimated by RRNA (see pp. 31-31 of RRNA study) is equal to 44 percent of the transport savings with exports. Therefore, the Japanese price discount of 25 percent assumed by RRNA in its study may be underestimated.

TABLE 1.—THE FINANCIAL AND ECONOMIC CONSEQUENCES OF EXPORTING ALASKAN CRUDE OIL *UNDER TWO ALTERNATIVE PRICING ASSUMPTIONS*[1]

	Original case[2]	Alternative I without the Japanese price discount	Alternative II Singapore as the balancing market[3]
Financial impacts and direct financial gains:			
State of Alaska (million dollars/year)	215	265	205
Federal Government (million dollars/year)	220	230	220
Producers (million dollars/year)	80	80	80
Subtotal (million dollars/year)	515	575	505
Japan (million dollars/year)	65	0	0
International maritime companies (million dollars/year)	45	45	45
Total (million dollars/year)	625	620	550
Direct financial losses:			
West coast consumers (million dollars/year)	(330)	(330)	(330)
U.S. maritime industry (million dollars/year)	(245)	(245)	(245)
Total	(575)	(575)	(575)
Net Federal revenue gains (losses) (present value for 10 year):			
Assuming west coast prices increase (million dollars/year)	635	680	635
Assuming West Coast prices do not increase (million dollars)	(340)	(290)	(340)
Economic impacts: Gains (losses):			
Annual change in GNP (million dollars/year)	(245)	(245)	(245)
Change in employment (jobs)	(9,100)	(9,100)	(9,100)
Annual change in balance of payments (million dollars/year)	(280)	(220)	(240)
Economic efficiency gains (losses) (dollars/barrel)	(0.18)	(0.18)	(0.18)
Additional Alaskan production:			
Percentage increase in after-tax profits (percentage)	12	16	12
Conjectural incremental production (b/d)	81,600	108,800	81,600

[1] All financial impacts, loss in GNP and balance-of-payment cost have been rounded to the nearest $5 million and the loss in employment has been rounded to the nearest 100 jobs.
[2] This is the original case analyzed in the RRNA report "The Economic and Financial Consequences of Exporting Alaskan Crude Oil."
[3] Except for quality adjustments, no price discount is assumed.

Source: RRNA.

No change in direct financial losses to West Coast consumers and the U.S. maritime industry (although a higher price to Japan might cause a further increase in the West Coast price of Alaskan crude, thereby increasing losses to West Coast consumers);

No change in the economic losses associated with reduced GNP, employment, and economic efficiency;

The annual balance-of-payments costs would be reduced by $60 million but would still be negative;

The percentage increase in after-tax profits at the wellhead would increase from 12 percent to 16 percent and, assuming a direct causal relationship, the incremental production of crude oil would increase from 81,000 b/d to approximately 108,000 b/d.

Another perspective on the pricing of Alaskan crude oil in Japan and the Pacific Rim countries (considered by several analysts in the oil industry) is that Singapore would be the balancing market for Alaskan crude oil and hence determine the quality-adjusted price for Alaskan oil in the region, including Japan. Should this occur, the financial and economic impacts associated with Alaskan crude oil would be similar to those estimated originally in RRNA's study (refer to table 1).

POTENTIAL PRODUCTION

Question 2. Your projections of likely export volume of 300,000 B/D are based on Alaskan State projections of crude oil production. These projections imply production of roughly 8.5 billion barrels between now and 1999. However, they entirely ignore potential production from the Alaskan outer continental shelf. A recent Interior Department study calculated expected OCS production of 7.8 billion barrels even if exports remain banned.

(a) Why did your study omit consideration of potential OCS production?

(b) How does the 8.5 billion barrel production total you relied on compare to total expected onshore and offshore Alaskan reserves made by other knowledgeable observers (e.g. the Federal government, other consulting firms, industry groups, and individual oil companies)? Is it higher or lower?

Answer. The export volume of 300,000 b/d used in RRNA's study for the estimation of the financial and economic impacts associated with exports is not determined by potential production in Alaska, but rather by other factors which are discussed on pages 20–22 in the study. In the long run, however, production of Alaskan crude oil will influence the volume of exports since the level of crude oil production will determine whether there is sufficient crude oil available to maintain an export market.[3]

RRNA's study did not omit consideration of potential outer continental shelf (OCS) production.[4] The estimated future production of crude oil in Alaska was based on projections by the Department of Revenue, which in turn are based upon the judgments of several institutions in Alaska, including the oil producers. These projections specifically include the likely development of all potentially available reserves in Alaska, and explicitly reflect the development of reserves in the Beaufort Sea (beginning in 1989 at 52,000 b/d and increasing to 109,000 b/d by 1999) and in the Canning River, Flaxman Island, and Point Thompson areas.[5]

These projections also explicitly take into account technical developments for secondary enhanced recovery, specifically with respect to the Sadlerochit Reservoir in Prudhoe Bay.[6] With respect to long-term projections, the Department concludes "In any event, it appears that no new reserves as large as Prudhoe Bay are on the horizon."[7]

These projections provide the most comprehensive—and, given the purpose for which they are prepared, probably the most objective—assessment of the future development of Alaskan crude oil. Whatever the estimates of unproved reserves may be, there is an important distinction between the mere existence of unproved reserves and their development for actual production.

There are two key questions concerning future production Alaskan crude oil as it relates to the oil export issues:

1. Will exports cause additional crude oil production that otherwise would not take place? For reasons discussed at length in both the RRNA study and my earlier testimony and additional comments provided to the Subcommittee, it is my judgment that a direct causal relationship between exports and additional production in Alaska is a tenuous one and that, in any event, the incremental production would be small. (Refer to table 1 in my additional comments of August 3, 1983.)

2. Will projected production be maintained for a longer duration than currently envisaged by the State of Alaska, thereby extending the "window" for exports? The answer to that question is "potentially, yes." But whether production will be maintained for a longer period hinges on numerous considerations. It is for this reason that we have relied upon the most comprehensive and objective estimate of future Alaskan crude oil production. The conclusion based upon this projected production level is that the "window" for exports is limited and that this in turn has serious implications for the advisability of permitting the export of Alaskan crude oil.

DISCOUNT RATE

Question 3. Some witnesses before the Committee make the following arguments: Costs of permitting exports will be felt during their initial stages, while benefits will accrue through the remaining life of Alaska's oil fields. Given this timing of costs and benefits, high discount rates can lead to misleading results—such rates make long term benefits appear small compared to near term costs.

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[3] The production of Alaskan crude oil of approximately 8.5 billion barrels between 1983 and 1999, which is the total production for this period underlying the projections shown in table 3 of RRNA's study, is based upon forecasts prepared by the Petroleum Revenue Division, Department of Revenue for the State of Alaska. Potential production projected by the Department of Revenue is greater than 8.5 billion barrels since production will continue beyond 1999.

[4] The most recent Department of Interior report (Arctic Summary Report, January 1983) includes estimates of OCS "undiscovered recoverable resources" but does not estimate OCS production (see p. 14). There is an important difference between the two ("undiscovered recoverable resource" is an estimate of the possible amounts of recoverable oil in a broad area), with actual production usually well below unproved reserves.

[5] Alaska Department of Revenue, Petroleum Revenue Division, "Petroleum Production Revenue Forecast" Quarterly Report, March 1983, pp. 9–10.

[6] Ibid., p. 9.

[7] Ibid., p. 2.

(a) Please give your view of this argument in explaining why you chose a 15 percent discount rate to determine the present value of exports benefits.

(b) How does the 15 percent discount rate you used compare to the average real rate of U.S. economic growth over the last ten years?

(c) Your study calculated the present value of Federal revenue gains after 10 years of exports at $635 million, using a 15 percent discount rate. How would your estimate of these gains differ if you had instead used the real U.S. economic growth rate mentioned in (b)?

Answer. I am pleased that in the debate on the Alaskan crude oil export issue there is a recognition that the timing of financial gains and losses and economic costs and benefits will be varied, and that values which are quantified should be expressed in present value terms. This, of course, requires the use of a rate of discount. In the RRNA study, present value was calculated only for net Federal revenue. Present values were not calculated for all financial gains or for all economic costs or benefits due to the difficulty of quantifying and valuing all of the parameters involved.

The basis for determining an appropriate rate of discount has been a matter of discussion among economists for decades and has been a source of sufficient articles and books to occupy a wing of the Library of Congress. In RRNA's study, a 15 percent rate of discount was used only to provide an illustrative calculation (page 42); it was not suggested in the study that 15 percent is necessarily the most appropriate rate of discount.

The rate of discount is not determined only by the real rate of economic growth. The rate of discount is generally defined as the opportunity cost of capital (which is measured by some long-term riskless rate of return) or as society's time preference. In either case, the estimation of an appropriate rate of discount is not easy, though if one were to use the opportunity cost of capital by estimating the real rate of return to a riskless investment, that probably would be currently in the range of 7 to 9 percent. The Office of Management and Budget has generally suggested a discount rate of 10 percent for application on Federal Government expenditure and procurement decisions.

With these considerations in mind, alternative calculations of the present value of net Federal revenue (again, the only instance in which present value calculations were made in the RRNA study) have been prepared and are shown in table 2. For a 10-year period, the present value of net Federal revenue ranges from $635 million using a discount rate of 15 percent to $990 million with a 5 percent discount rate. If West Coast prices do not increase as a result of exports, the present value of net Federal revenue is negative at all discount rates.

TABLE 2.—ESTIMATED PRESENT VALUE OF NET FEDERAL REVENUE WITH EXPORTS OF 300,000 BARRELS PER DAY

[For 10 years in millions of dollars]

Using discount rates	5 percent	10 percent	15 percent
If increase in west coast price	990	781	635
If no increase in west coast price	(508)	(411)	(340)

DIRECT EMPLOYMENT EFFECTS

Question 4. You provided the Committee with an estimate of 1,700 direct job losses as a result of idling 25 ships, or about 68 jobs per ship.

(a) Does this estimate reflect the fact that U.S. merchant sailors work about 6 months of the year?

(b) If so, doesn't your 1,700 figure imply a direct loss of 850 full time jobs?

Answer. The fact that merchant marine crews in domestic trades generally work only 6 months per year is not directly relevant to estimating forgone or lost job opportunities. However defined in terms of the number of months of gainful employment, these are lost job opportunities nonetheless. The same concept applies in other sectors of the economy when employment is measured or when job opportunities are lost, since there are many instances where individuals are working less than at a full-time equivalent. Nonetheless, if one wished to translate the forgone job opportunities into full-time equivalent jobs, then the number of lost jobs would be approximately 850, though the number of individuals unemployed would be approximately 1,700.

INDIRECT EMPLOYMENT EFFECTS

Question 5. Your employment analysis estimates 7,380 jobs lost as a result of $246 million shifting away from the maritime sector. Your likely export scenario calculates that $189 million will be transferred from the maritime sector to the State of Alaska, the Federal Treasury and Alaskan producers.

(a) Your 7,380 job loss estimate does not take into account jobs created in other sectors. Why did you omit quantitative estimation of these effects in measuring the economic effects of exports?

(b) How many jobs will the $189 million create in non-maritime sectors of the economy?

Answer. In principle, the transfer of resources to the State of Alaska, the Federal Government, and the oil producers could cause new employment opportunities to be created, but:

1. Additional revenue received by the oil producers would lead to additional employment only if new exploration and development activities were undertaken which were directly caused by exports (for reasons discussed elsewhere, this is highly uncertain), and even if they did occur, the employment impact for other sectors of the economy would be small because of the nominal multiplier effect for this particular sector.

2. The indirect employment effect due to increased state and Federal Government revenue is also uncertain since it depends on whether and how this revenue would be spent. The multiplier effect for Federal expenditures in other sectors of the economy is also relatively small. Moreover, since it is possible that there could be a net Federal revenue loss, there would be no indirect employment gains through the Federal Government, but rather indirect employment losses.

For similar reasons, no estimate was made in the RRNA study for the indirect employment losses that would occur due to the financial losses incurred by west coast consumers as a result of exports. In principle, the transfer of resources from west coast consumers would lead to reduced income, which in turn would lead to reduced expenditures, which in turn would cause a reduction in employment. While there are means by which to estimate this indirect unemployment, no estimate was made of these lost employment opportunities.

In summary, there is an important difference between estimating the indirect employment losses through the impact in the maritime sector and those in other sectors; in the former, it is certain and measurable, while in the latter, it is uncertain and quantification is speculative.

ALTERNATE ASSUMPTIONS AND RESULTS OF ANALYSIS

Question 6. Analysts' findings are often conditioned on the assumptions they make. How would your results have differed if you had used the following set of assumptions:

A competitive Far Eastern refining market and sales of exported crude at its quality-adjusted world price (i.e. no price concession);

An analytic time horizon covering the life of Alaska's oil fields, and using the National Petroleum Council's total reserves estimate of 24.1 billion barrels;

A discount rate equal to the real rate of U.S. economic growth over the last 10 years;

Income shifted from the maritime sector moving to other sectors of the U.S. economy and stimulating economic activity in those sectors.

Answer. This particular question requested an assessment of the financial and economic consequences of exports with four different assumptions (or more appropriately, judgments) on several parameters involved in the analysis.[8] Each of these is described briefly below:

1. With respect to the character of the market for crude oil in Japan and the Pacific Rim countries, the results of this analysis are presented in table 1 and are discussed earlier in this note.

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[8] In the RRNA study, with few exceptions, values employed in the analysis are not assumed but rather are based on judgments derived from examination of data.

2. With respect to alternative discount rates, the results are presented in table 2 above, and are discussed previously in this note.

3. The indirect employment effects that might be stimulated as a consequence of income being shifted to Alaska, the Federal Government, and the oil producers have also been discussed above. However, to illustrate the magnitude of such effects, and with all the appropriate caveats discussed in V above, the indirect employment that might be created by revenue transfers associated with direct exports (excluding revenues that might be transferred due to the West Coast price effect) is as follows:

Petroleum industry	130
Federal Government	500
State government	4,100

4. If the analysis were to incorporate a time horizon that reflected the life of Alaska's oil fields and estimates of reserves using the National Petroleum Council's (NPC) estimates,[9] the economic and financial consequences would change little, if at all. The reasons for this are that:

(a) The best judgment on the likely production over the next 15 or more years presented by the Department of Revenue explicitly incorporates all information available to the Department on reserves and their development over this time horizon. Therefore, one organization's estimate of reserves is not likely to alter projections of production (unless newly discovered reserves of high potential and low cost development were unexpectedly to appear on the horizon).

(b) The life of Alaska's fields is already reflected in RRNA's study since the cost and benefits, whether in financial or economic terms, are estimated for the seven to 10 years of the expected "window" or duration of the Alaskan crude oil exports. In any event, extending the time horizon in which the financial and economic effects are measured and quantified is not likely to change the values or the conclusions because the value today of any financial gain or loss (or of any cost or benefit to the U.S. economy) beyond 1995 will be insignificant at any reasonable rate of discount.

APPENDIX TABLE 1.—JAPAN'S CRUDE OIL IMPORTS BY SOURCE OF SUPPLY, 1982

Country	Average barrels/day	Percent of total imports
China	175,314	5.09
Malaysia	70,880	2.06
Brunei	78,776	2.29
Indonesia	535,107	15.55
Iran	203,727	5.92
Iraq	59,980	1.74
Saudi Arabia	1,363,314	39.62
Kuwait	57,150	1.66
Qatar	124,756	3.63
Oman	127,215	3.70
United Arab Emirates	473,088	13.75
Netherlands	171	0
Mexico	90,309	2.63
Venezuela	20,013	.58
Algeria	39,003	1.13
Libya	2,478	.07
Egypt	6,072	.18
Peru	13,770	.40
Total	3,441,123	100.00

Source: "Japan Exports and Imports. Commodity by Country" (Tokyo: Japan Tariff Association, January–December 1982).

[Whereupon, at 4:38 p.m., the subcommittee adjourned, to reconvene at 2 p.m., Wednesday, July 20, 1983.]

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[9] The NPC's estimates of 24 billion barrels of oil are not of reserves but of "potentially recoverable undiscovered oil" of which 14 billion barrels would be economically recoverable. The NPC also cautions that any meaningful resource assessment (i.e. reserve estimation) must be based on "a considerable amount of exploratory drilling." (National Petroleum Council, "U.S. Arctic Oil and Gas," December 1981, p. 6.)

EXPORT OF ALASKA CRUDE OIL

WEDNESDAY, JULY 20, 1983

United States Senate,
Subcommittee on East Asian and Pacific Affairs
of the Committee on Foreign Relations,
Washington, D.C.

The subcommittee met, pursuant to notice, at 2:06 p.m., in room SD-419, Dirksen Senate Office Building, Hon. Frank H. Murkowski (chairman of the subcommittee) presiding.

Present: Senators Murkowski and Pell.

Senator **Murkowski**. We will call to order the hearing of the Subcommittee on East Asian and Pacific Affairs on behalf of the Foreign Relations Committee. I welcome the witnesses and welcome those of you who are in attendance.

I think to expedite the proceedings we will ask the witnesses from the various departments representing the administration to come forward as a group. We will start with Hon. Richard McCormack, Assistant Secretary for Economic Affairs, Department of State. I would ask you to come up and be seated, Mr. McCormack.

The next witness is Jan Mares, Assistant Secretary for Fossil Energy, Department of Energy. Mr. Mares, we welcome you before the committee.

Mr. William K. Krist, Assistant U.S. Trade Representative for Industrial and Energy Trade Policy, will be our third administration witness. Welcome, Mr. Krist.

I would ask that you proceed with your oral testimony and I want to assure you that your entire written submission will be entered into the record. I would call first on Mr. McCormack. You may proceed.

STATEMENT OF HON. RICHARD McCORMACK, ASSISTANT SECRETARY OF STATE FOR ECONOMIC AFFAIRS

Mr. **McCormack**. Thank you very much, Senator. I would like to thank you very much for the opportunity to appear today to discuss the export of Alaskan oil. We look forward to working with you personally and with your staff as Congress considers this issue.

The 1973 Trans-Alaska Pipeline Act was passed at a time of rapidly rising oil prices, mounting uncertainty about long-term supplies of oil and instability in oil producing regions of the world. Environmentalists at that time wanted assurances that the volume of oil trade would not be so great as to harm an environment that we had little experience with. Many Americans wanted to assure themselves of oil supplies by retaining Alaskan oil for the domestic market.

As a result, the Trans-Alaska Pipeline Act included language that allowed exports of Alaskan oil only if the President found that exports were in the national interest and that they would not decrease domestic oil supplies.

In 1977, Congress strengthened these restrictions substantially in the Export Administration Act. In 1979, the restrictions in the act were tightened yet again.

The Export Administration Act, as amended, required that before allowing the export of Alaskan oil the President must show that: (a) exports will not decrease the quantity or quality of the supply of oil to the United States; (b) exports would result in lower oil costs to refiners, 75 percent of which would be passed on to the consumers; (c) exports would be terminated if U.S. suppliers were threatened or diminished; and (d) that exports were clearly necessary to protect the national interest.

ASSESSMENT

We recognize the concern of some Members of Congress that the United States may be deprived of its own oil in a crisis or that some regions will pay more for oil if Alaskan oil is exported. We also recognize the view of many in Congress that allocation of oil by the market is the most efficient way to safeguard the interests of producers and consumers.

In each of the past 3 years, this administration has devoted substantial time and effort to assess the impact of crude oil exports. We have come to the analytical conclusion that the removal of legal restrictions on the export of Alaskan oil would have a beneficial impact and few adverse effects.

Allow me to outline here what I believe are the major benefits and disadvantages that could occur from removal of restrictions on Alaskan oil exports.

THE FOREIGN POLICY EFFECTS

First, promoting open energy markets through export of Alaskan oil would demonstrate to the international community U.S. determination to remove artificial impediments to free trade in general and to energy markets in particular.

Second, we would provide a potential new source of oil for one of our most important allies, Japan, and eventually perhaps for other countries on the Pacific rim with which we have extremely important relations.

Japan is heavily dependent upon Persian Gulf oil. It is acutely aware that this region is prone to instability and disruption. Exporting U.S. oil to Japan promotes the energy security of a key ally by diversifying its sources of supply. Equally important is the symbolic gesture of good will toward Japan at a time when we are pressing the Japanese to buy more American coal and to join in the development of Alaskan gas resources.

The United States-Japan Energy Working Group, set up by President Reagan and Prime Minister Nakasone last January, has recently held its second meeting, which I attended. Export of U.S. energy resources was clearly a matter of considerable interest to

Japan during these talks and during the recent United States-Japan sub-Cabinet consultations.

The Japanese are seeking access to Alaskan energy resource on an open, nondiscriminatory basis. It would be easier to obtain U.S. access to Japanese markets if we do not restrict Japanese access to our energy markets.

DOMESTIC EFFECTS

Permit me now to speak for a moment to the domestic advantages of liberalization of export controls. Best case estimates done by the Department of Energy in its most recent review indicate that complete removal of the ban on exports of Alaskan oil would result in savings of from $3.6 to $5.4 billion in present discounted value terms through 1990.

These savings result from the simpler and shorter route from Alaska than from Persian Gulf oil producers to customers in the Far East, and the sharply reduced transportation cost for U.S. east coast customers. In a completely free market, wellhead prices of oil exported to Japan and other Pacific rim countries couold improve by as much as $1.85 per barrel, of which over $1.70 would be increased taxes paid to the United States and Alaskan governments. A partial lifting would have a smaller economic impact on producers, U.S. consumers and maritime interests.

The economic results of export of Alaskan crude are not entirely positive. U.S. private enterprise has made substantial investment in equipment to transport oil to the gulf, west and east coasts. These investments would be adversely affected by the export of Alaskan crude oil.

Of the domestic tanker fleet, 40 percent is in the Alaskan oil trade. The removal of that ban could result in exports of 800,000 barrels per day and the owners of these tankers could be forced into default. Default on Government loan guarantees on these ships could be substantial.

Partial elimination of the ban would cause proportionately fewer losses of Jones Act trade. The outlays would in each case be less than the anticipated Federal tax revenue gains from exports of Alaskan crude, and that is a very important point. If exports of Alaskan crude were limited to, say, 200,000 barrels per day, relatively few tankers would be affected. Benefits of lifting the ban would be offset to some extent by adverse effects of domestic tankers.

It is important to state that with decontrol the U.S. oil market has become an integral part of the world oil market. The United States will find that we can replace Alaskan oil quite readily since any oil we export will displace other oil and then displaced oil will become available on the world markets to consumers, including the United States.

By way of example, if the United States exports crude to Japan, the 100,000 barrels per day that Japan now purchases from Mexico would presumably be available to U.S. east coast buyers at far lower transportation cost than oil shipped from Valdez through the pipeline in Panama, reloaded into tankers in the Caribbean and finally delivered to an east coast buyer.

It is interesting to note here that the United States currently exports substantial quantities of refined oil products to Japan, Western Europe and even the Soviet Union because of favorable economics.

U.S. ENERGY SECURITY

One of the most frequently heard criticisms of Alaskan crude exports is that in an oil supply crisis we would need to restrict our exports of domestically produced oil. However, a major foreign policy goal of the United States remains close cooperation on energy supply questions in a crisis, including sharing supplies with our allies.

As we discovered in the 1973-74 energy crisis, maintaining our strategic alliances was a key part of our effort. Without cooperation with our allies in meeting the oil shortage problems of each member, we could not hope to insure their support for our efforts to resolve the crisis.

The international energy program was devised to accomplish such cooperation. As you are probably aware, the IEP provides for an emergency oil allocation system. Thus, our exports of Alaskan crude would not pose additional problems to the United States in case of severe disruption in world oil markets.

Our international commitments would require that we share oil with our allies based on a formula that takes into account net oil imports and consumption levels of each member country before and after the interruption. Alaskan oil exports would count as an offset against imports, thus the net effect under the international energy program would be a wash. It would not affect the U.S. supply right to remaining oil if an interruption occurs.

In the case of lesser disruptions, the United States, together with its Far Eastern allies, would be dependent on world oil markets for a significant portion of our oil. To the extent that we are able to offer a secure, stable source of oil to our Asian allies to meet at least part of their needs, we will help mitigate the fierce competition and allay the panic which during times of tight supply causes consumers to bid up spot oil market prices against each other to the benefit of a few oil-exporting countries.

The export of Alaskan oil could provide an additional incentive for the development of the domestic oil and gas resources. By enhancing profitability of domestic resources, we would be encouraging investment in U.S. energy supplies, and, in fact, be reducing our dependence on foreign energy resources. We would also be encouraging our allies, by our example, to take similar steps.

By reducing the vulnerability of major petroleum-consuming nations we are enhancing their energy security. As we increase the energy security of our allies we would be reducing the opportunity for use of oil as a political weapon against ourselves or others.

Given the current world oil market, lifting the ban on Alaskan exports may not lead to substantial immediate export sales to Japan or any other country. A partial removal of the restrictions would probably satisfy near-term demand of Pacific rim nations, and would provide room for growth in exports. If demand increased over time, newly developed oil in Alaska might well be in place to meet that demand.

In sum, there are significant advantages to export and a few disadvantages. We appreciate the opportunity to present our analytic findings and welcome congressional views on this issue as we continue our internal review and consultations with officials of the Government of Japan.

Thank you, Mr. Chairman.

Senator MURKOWSKI. Thank you very much, Mr. McCormack. I understand that this is your first appearance before the committee since you served as a member of Senator Helms' staff. We welcome you back in your new capacity.

I would hold my questions until the balance of the panel has made their statements and would call on Mr. Jan Mares, Assistant Secretary for Fossil Energy, Department of Energy. We welcome you to the committee, Mr. Mares, and we look forward to your testimony.

STATEMENT OF HON. JAN MARES, ASSISTANT SECRETARY OF ENERGY FOR FOSSIL ENERGY, DEPARTMENT OF ENERGY

Mr. MARES. Thank you, Mr. Chairman. I would like to go through the highlights of my statement and submit the full statement for the record.

Senator MURKOWSKI. It will be so noted and submitted in the record.

Mr. MARES. I am pleased that you have given us an opportunity to describe our ongoing work on the issue of Alaskan oil exports. Although the work is still in progress, we would like to present some of the preliminary findings today.

I would like to begin briefly by describing the model we are using in the analysis and then address individually the three major questions that have been raised in our consideration of the ban on Alaskan oil exports—those questions being what are the economic benefits and costs of lifting the oil export ban; will lifting the ban lessen the energy security of the Nation; and, finally, will lifting the ban lessen our national security through its effect on the domestic maritime industry.

With respect to our model, we are using a mathematical model of the world oil market which simulates the operation of that market. The model is not an exact replica of the world market. Models in fact cannot be exact replicas. However, we have great confidence that this model reasonably depicts the relative effects of the various Alaskan oil exports policies. Nonetheless, we recognize that for such a major policy decision any results from a mathematical model must be validated against real world experience.

The documentation on the contingency planning model was published in July 1982. Although the input data described in this document is now out of date, the documentation accurately portrays the structure and operation of the model that we are now using. We will be submitting updated documentation when we publish our analysis later this year.

With respect to the economic benefits and costs, I think it is clear that our Nation's recent experience with energy markets demonstrates that unnecessary government interference in markets distorts the equilibrium between supply and demand, and results in an inefficient allocation of resources. The current prohibition against export of Alaskan oil is yet another example of this point.

The preliminary results of our study indicate that the economic costs of this ban far outweigh the economic benefits. The direct costs of the ban are the higher transportation and refining costs incurred by shipping almost half of the North Slope production to the gulf coast and the Caribbean. The other half goes to U.S. west coast markets, where there is a substantial oversupply of heavier crudes and refinery conversion facilities are overloaded.

Indirect costs of the ban are lower oil exploration activity and lower oil production in Alaska and California. The benefits of the ban are restricted to the Jones Act subsidies to the domestic tanker fleet and to depressed prices paid by west coast consumers primarily for heavy petroleum products.

With respect to the general economic effects of allowing exports, the primary argument in favor of lifting the ban is economic. The benefits of eliminating the export ban would be reduced cost for transporting and refining petroleum to meet domestic energy needs. Initial estimates indicate the total discounted present value of savings through 1990 in oil transportation and refining costs that would result from the lifting of the ban range from $3.6 to $5.4 billion.

These cost savings are made up of three chief components—resources savings, net additions to our economic wealth and wealth transfers. Regarding the resource savings, an important benefit to the economy would result from the release of economic resources currently tied up in the transport of Alaskan oil. We could use those resources to reduce costs in other sectors of the economy.

Initially, the transfer of resources would be modest. Fuel and other operating costs of the tanker would readily be used elsewhere. Over time, more resources would be saved for other uses, including the materials required to replace many of the ships in the aging domestic tanker fleet.

Another part of the savings would result from new value that is added to the economy. It would reduce transportation and refining costs, increase the incentives for new exploration and production of oil in Alaska and on the U.S. west coast. Any new production that results is a net improvement in our national economy.

Regarding wealth transfers, the flow of revenues into the domestic maritime industry would be reduced as demand for their services declined, while the revenue flows into production and the Federal and State treasuries would increase. I would note that these wealth transfers are not net additions to our national economic well-being. However, the wealth transfers do result in changed incentives that, in the future, will lead to increases in our national wealth.

We believe that, regarding wellhead prices, if producers were allowed to export oil, Alaskan wellhead prices would increase, reflecting the lower transportation costs to the market. Initial estimates indicate that the wellhead value of Alaskan crude would rise by about $1.85 per barrel. Similarly, those higher wellhead prices due to lifting the ban would encourage additional oil production in Alaska and California.

The increase in wellhead prices accompanying the removal of the export ban would increase incentives to extend oil production in old fields and begin in new fields. The resulting increase in domestic production would increase downward pressure on world oil prices while reducing the level of net oil imports to the United States and the drain on the balance of trade caused by those imports.

When we consider west coast petroleum product prices in the event the ban is lifted, the west coast refiners should incur higher crude acquisition costs. However, their conversion costs should be lower, with the net effect that only part of those higher costs will be passed on to the consumers. The price increase that is passed on would be largely limited to the heavier petroleum products.

When we consider the effects on the maritime industry, allowing oil exports could jeopardize the economic value of investments in the maritime and refining infrastructure that was developed to carry this oil to domestic markets and refine it for domestic customers. Defaults are possible on government-guaranteed ship mortgages.

It should be noted, however, that according to our analysis to date, even in the most extreme scenarios concerning tanker defaults, the Federal outlays for guaranteed loans would only be a fraction of the increased revenues from other sources. If export restrictions were only partially lifted, the immediate impact on the tankers would be less severe.

When we consider Federal revenues, we would recognize that a large part of the increase in the value of Alaskan and Californian oils would be captured by the Federal Government in increased windfall profit tax and corporate income tax receipts. The actual amount of Federal revenues will depend on future world oil prices. Our preliminary estimates show sizable net increases in Federal revenues under a wide range of oil price projections.

Regarding energy security, some have argued that prohibiting export increases our Nation's energy security by insuring that more oil would be available to us during an oil supply emergency. We believe this argument has been disproved by recent history. A very important, but often overlooked, aspect of the world oil market is that oil and petroleum products are exchanged widely among consumers, as well as between consumers and producers.

Producers and consumers have the opportunity to profit from the sale of oil to regions where prices are high. As a result, oil supplies will move rapidly to regions with high prices and away from regions with relatively low prices until prices in all regions are about the same, adjusting for differences in transportation costs, refining costs, and taxes.

During all supply disruptions, the force of price equalization will insure that oil and petroleum products are directed to areas where they are most needed.

The two major oil supply disruptions of the 1970's demonstrated that oil and petroleum products do in fact flow to where they are most needed. In 1973, the Arab members of OPEC imposed a complete embargo on crude exports to the United States and the Netherlands.

At that time, the total OPEC production was cut by about 10 percent. However, exchange between consumers, and between consumers and non-OPEC and non-Arab OPEC producers, made this attempt to prevent the United States and the Netherlands from obtaining crude imports largely ineffective. In the end, all consuming countries suffered about the same 10-percent reduction in consumption caused by the lower level of OPEC production.

Our view is that lifting the Alaskan export ban would enhance our energy security by increasing domestic production, reducing U.S. net oil imports, and by increasing the flexibility of the world oil market to adjust efficiently to unexpected supply disruptions.

Lifting the ban would remove a barrier to free exchange and allow supply patterns to be redirected in a way that would reduce refining and transportation costs. It is especially important during supply disruptions that the market is allowed the flexibility to distribute available oil supplies as efficiently as possible.

With respect to national security, the issue is what effect would lifting the Alaskan oil export ban have on the U.S. national security. There is serious concern that small militarily useful tankers now employed in the Alaskan oil trade would be scrapped if the ban were lifted. We are currently examining military tanker requirements to determine whether an alternative means of guaranteeing our security interests in this respect would be less costly to the economy than maintaining the Alaskan oil export ban.

In broad conclusions, our analysis of the Alaskan oil export ban will not be completed until this fall, but one important conclusion has already emerged. The decision to retain or lift the current prohibition against exports must be based on a careful balancing of economic, energy security, and national security concerns.

Our initial results show that the economic benefits derived from reducing transportation and refining costs far outweigh the economic costs imposed on the maritime industry. In other words, the U.S. economy as a whole would benefit from lifting the ban. It was previously noted, however, the dislocations to the U.S. maritime industry would be significant.

In terms of energy security, lifting the ban also has positive effects. A reduction in U.S. net oil imports makes us somewhat less vulnerable to oil supply disruptions. The increase in secure world oil supplies and the removal of barriers to energy trade and the strengthening of our energy trade in the Pacific rim serve to increase the security of all oil importing nations, including the United States. These economic and energy security benefits must be weighed against the reduction in national security as the current subsidy of the domestic tanker fleet is reduced.

This concludes my prepared statement. I would be pleased to answer any questions.

[Mr. Mares' prepared statement follows:]

PREPARED STATEMENT OF HON. JAN MARES

I am pleased you have given me the opportunity to describe our ongoing work on the issue of Alaskan oil exports. Although the work is still in progress, I would like to present some preliminary findings today.

I would like to begin by briefly describing the computer model we are using in our analysis, and then address individually the three major questions raised during our consideration of the ban on Alaskan oil exports:

What are the economic benefits and costs of lifting the oil export ban?

Will lifting the ban lessen the energy security of the Nation?

Will lifting the ban lessen our national security through its effect on the domestic maritime industry?

MODEL DESCRIPTION

In our analysis of oil export policy options, we are using a mathematical model of the world oil market. This computer model was developed jointly by DOE and individuals in the Operations Research Department at Stanford University, and is called the Contingency Planning Model [CPM]. The CPM simulates the operation of the world oil market, and is designed to estimate the response of the oil market to changes in oil supply, refining or transportation costs, and petroleum product demand. The model contains 10 different geographic oil producing regions, 13 refining centers, and 9 petroleum product consumption regions. The CPM simulates the production and transportation of crude oil to refining centers, the distillation and downstream processing of the oil into marketable products, and the transportation of the products to ultimate consumers. The CPM is detailed enough to answer a number of questions raised during consideration of the export ban including the value of Alaskan oil in the Far East, the availability and cost of imported substitutes for exported Alaskan oil, and the compatibility of Alaskan and other crudes with the various refining centers around the world.

The CPM has been tested across a wide range of scenarios, and has been found to depict accurately the patterns and alterations of crude oil shipments, refining, and consumption that economic theory and practical market experience suggest would occur. The model itself has been favorably reviewed by a number of modelers, including members of the Energy Modeling Forum affiliated with Stanford University and researchers at the U.S. Office of Technology Assessment. While the model is not an exact replica of the world oil market, we have great confidence that the CPM reasonably depicts the relative effects of the various Alaskan oil export policies. Nonetheless, we recognize that for such a major policy decision any results from a mathematical model must be validated against real world experience. I would like to submit for the record, documentation on the Contingency Planning Model that was published in July 1982. Although the input data described in this document is now out of date, the documentation accurately portrays the structure and operation of the model we are now using. We will submit updated documentation when we publish our analysis later this year.

ECONOMIC BENEFITS AND COSTS

Our Nation's recent experience with energy markets demonstrates that unnecessary government interference in markets distorts the equilibrium between supply and demand and results in an inefficient allocation of resources. The current prohibition against export of Alaskan oil is yet another example of this point, for the preliminary results of our study indicate that the economic costs of this ban far outweigh the economic benefits. The direct costs of the ban are the higher transportation and refining costs incurred by shipping almost half of the Alaskan North Slope production to the gulf coast and Caribbean. The other half goes to U.S. west coast markets where there is a substantial oversupply of heavier crudes and refinery conversion facilities are overloaded. Indirect costs of the ban are lower oil exploration activity and lower oil production in Alaska and California. The benefits of the ban are restricted to the Jones Act subsidies to the domestic tanker fleet and depressed prices paid by west coast consumers of heavy petroleum products.

IMPACTS OF THE BAN

Under current law, virtually all of the 1.7 million barrels per day of Alaskan oil production must be shipped to domestic markets. The west coast markets absorb about half this amount. The remaining oil is shipped to refineries on the gulf coast and Caribbean. The Jones Act, which mandates that only U.S. flag tankers operate between U.S. ports, causes shipping rates to be higher than internationally competitive rates because of high U.S. construction and labor costs. Transportation costs are approximately $1.50 per barrel to the west coast and from $4 to $5 per barrel to the gulf and east coasts. These transportation costs contrast sharply with our estimated costs to Japan and the Far East of between $.50 and $.95 per barrel.

Under current law, oil companies do not bear the full weight of these high transportation costs because they can be written off against windfall profit tax liabilities. When the windfall profit tax phase down in the late 1980's/early 1990's, the economic incentive to export Alaskan oil will be even greater; and with the ban in place, this incentive will be translated into increased oil product exports that are not covered by the ban.

Currently only about half of the 1.7 mmbd of oil produced on the North Slope can be economically refined and used on the west coast, and Alaskan production is expected to increase to a peak of about 2 mmbd. This excess supply diminishes the profitability of new production and therefore serves as a disincentive to the exploration and development of additional Californian and Alaskan oil reserves.

If the ban remains in effect, the crude oil surplus is expected to increase by 1985 and continue through 1995, even with a decrease in new exploration and production. This surplus in the California market would be exacerbated by new oil discoveries on the Outer Continential Shelf off the California coast. Consequently, Alaskan and Californian oil producers would continue to sell at a discount in order to compete in the west coast market.

GENERAL ECONOMIC EFFECTS OF ALLOWING EXPORTS

The primary argument in favor of lifting the ban is economic. The benefits of eliminating the export ban would be reduced costs for transporting and refining petroleum to meet domestic energy needs. Initial estimates indicate that the total discounted present value of savings through 1990 in oil transportation and refining costs that would result from lifting the ban would range from $3.6 to $5.4 billion. These cost savings come from three chief sources: wealth transfers, resource savings, and net additions to our economic wealth.

(1) Wealth transfers.—In the initial years, part of the reduced costs of producing and delivering petroleum products for domestic consumption will result from reduced net revenues in the maritime and refining industries. The flow of revenues into the domestic maritime industry would be reduced as demand for their services declines, while revenue flows into oil production and the State and Federal Treasuries would increase. Net revenues to refiners on the west coast would also decline as their crude oil costs rise to world market levels and revenues to producers and Government increase.

(2) Resource savings.—An additional benefit to the economy would result from the release of economic resources currently tied up in the transport of Alaskan oil to reduce costs in other sectors of the economy. Initially the transferable resources would be modest; the fuel and other operating costs of the tankers would be readily used elsewhere. Over time more resources would be saved for other uses, including the materials required to replace many of the ships in the aging domestic tanker fleet. (As you may know, a substantial fraction of the smaller tanker fleet used primarily to haul oil from Panama to the gulf and east coasts is nearing 15 years of age or older.)

(3) Net additions to our economic wealth.—Another part of the savings would result from new value added to the economy. Reduced transportation and refining costs increase the incentives for new exploration and production of oil in Alaska and on the U.S. west coast. Any new production that results is a net improvement in our national economy. Over time, the fraction of the cost savings attributable to transfers from one sector of the economy to another will decline, and that from net additions to our economic wealth will increase.

WELLHEAD PRICES

If producers were allowed to export oil, Alaskan wellhead prices would rise, reflecting the lower transportation costs to market. Higher wellhead prices from sales to the Pacific Rim would provide incentives to export a substantial fraction of Alaskan oil production—perhaps as much as half—by 1990. Initial estimates indicate that the wellhead value of Alaskan crude would rise by about $1.85 per barrel. The wellhead price of California crudes would also rise, reflecting the end of the west coast "glut" that stems from the ban.

OIL PRODUCTION

Higher wellhead prices due to lifting the ban would encourage additional oil production in Alaska and California. As the wellhead value of the oil increases, it becomes economic to produce more from existing fields and to begin production on fields that were previously uneconomic. The point can be made by example: Alaskan oil producers have discovered about 150 million barrels of recoverable oil reserves in the Milne Point and Gwydyr Bay Fields. For the present these fields will not be developed because, at current wellhead prices, it would be uneconomic to do so. Furthermore, development in the Kuparuk region has been slowed, apparently because of the decline in world oil prices over the past 6 months. In both of these cases, and others like them elsewhere in Alaska and on the west coast, the increase in wellhead prices accompanying removal of the export ban would increase incentives to extend oil production in old fields and to begin it in new fields. The resulting increase in domestic production would increase downward pressure on world oil prices, while reducing the level of net oil imports to the United States and the drain on the balance-of-trade caused by those imports.

WEST COAST PETROLEUM PRODUCT PRICES

As the average viscosity of California production increased and as North Slope production came on line in the late 1970's, it was necessary for west coast refiners to invest in new conversion capacity. However, the uncertain investment climate fostered by imposition of the ban has limited this investment. West coast refiners have not been installing enough new conversion capacity to adequately refine the growing supplies of heavy crudes and residual fuels obtained from distillation of these crudes. Instead, west coast refiners have operated existing conversion capacity more intensively to increase percentage yields of light products such as motor gasoline. The limitations of existing conversion capacity among west coast refiners has caused an increase in the cost of refining light products and in the supply of heavy products. The effect for west coast consumers has been that prices of heavy products have been lowered by about 3 percent, while prices of light products like gasoline have remained high. Therefore, should the ban be lifted and west coast refiners incur higher crude acquisition costs, only part of those higher costs will be passed on to consumers. The price increase that is passed on will be largely limited to heavy petroleum products.

EFFECTS ON THE MARITIME INDUSTRY

Approximately 40 percent of the domestic tanker fleet, comprising 70 percent of total dead weight tonnage, is currently engaged in the Alaska trade. The ships in this fleet are protected from foreign competition, and due to higher construction and operating costs would be unable to compete successfully outside the domestic trade. Some of these ships are likely to be idled should the oil export ban be lifted, and as many as 3,000 maritime jobs may be lost.

Allowing Alaskan oil exports could jeopardize the economic value of investments in the maritime and refining infrastructure that was developed to carry this oil to domestic markets and refine it for domestic customers. The removal of the ban could eventually result in the export of 800,000 barrels per day and the owners of 68 tankers now employed in its domestic distribution would go out of business. Defaults on government-guaranteed mortgages on ships directly affected could be significant. Further, in the tanker industry competition that would follow, additional defaults involving government guarantees on tankers outside of the Alaskan trade may be expected. It should be noted, however, that, according to preliminary analysis, even in the most extreme scenarios concerning tanker defaults, Federal outlays for guaranteed loans would only be a fraction of the increased revenues from other sources. If export restrictions were only partially lifted, the immediate impact on the tanker industry would be less severe.

FEDERAL REVENUES

A large part of the increase in the value of Alaskan and California oils would be captured by the Federal Government in increased windfall profit tax and corporate income tax receipts. The actual amount of Federal revenues will depend on future world oil prices. Our preliminary estimates show sizeable net increases in Federal revenues, under a wide range of oil price projections. In addition, the value of future OCS and Federal land leases in Alaska and California would increase, resulting in larger bonus bids for those leases and production royalties. Revenues from those leases over the productive lives of the fields would result in gains of about $10 billion (discounted present value) if the ban were lifted. These gains represent substantial benefit to Americans generally.

ENERGY SECURITY

Some have argued that prohibiting exports increases our Nation's energy security by ensuring that more oil will be available to us during an oil supply emergency. This argument has been disproved by recent history.

A very important, but often overlooked, aspect of the world oil market is that oil and petroleum products are exchanged widely among cunsumers as well as between consumers and producers. Producers and consumers have the opportunity to profit from the sale of oil to regions where prices are high. As a result, oil supplies will move rapidly to regions with high prices and away from regions with relatively low prices until prices in all regions are about the same, adjusting for differences in transportation costs, refining costs, and taxes. During oil supply disruptions, the force of price equalization will ensure that oil and petroleum products are directed to areas where they are most needed. Likewise, the force of price equalization prevents the United States from securing greater oil supplies during a disruption by banning the export of Alaskan oil.

The two major oil supply disruptions of the 1970's demonstrated that oil and petroleum products do in fact flow to where they are most needed. In 1973, the Arab members of OPEC imposed a complete embargo on crude exports to the United States and the Netherlands. At the same time, total OPEC production was cut by about 10 percent. Exchange between consumers, and between consumers and non-OPEC and non-Arab OPEC producers, made the attempt to prevent the United States and the Netherlands from obtaining crude imports largely ineffective. In the end, all consuming countries suffered about the same 10-percent reduction in consumption caused by the lower level of OPEC production.

Price increases and supply losses were also experienced equally among consuming countries during the Iranian Revolution and the Iran/Iraq war.

In fact, lifting the Alaskan export ban would enhance U.S. energy security by increasing domestic production, reducing U.S. net oil imports and by increasing the flexibility of the world oil market to adjust efficiently to unexpected supply disruptions. Lifting the export ban would allow—not require—U.S. firms to export Alaskan oil. Some Alaskan oil would continue to be shipped to the west coast markets. Some oil which currently goes to the gulf coast markets may be shipped to Japan and other nations of the Pacific Rim. In this case, substitute supplies from foreign producers would be sent to Gulf Coast markets to meet unsatisfied demand. In short, the export of Alaskan oil would not diminish the supply of oil for U.S. markets. Allowing exports of Alaskan would result in increased domestic oil production on the West Coast and in Alaska. Net U.S. oil imports would, therefore, be lower and our vulnerability to oil supply disruptions reduced if the ban were lifted.

Lifting the export ban also would remove a barrier to free exchanges and allow supply patterns to be redirected in a way that would reduce refining and transportation costs. It is especially important during supply disruptions that the market is allowed the flexibility to distribute available oil supplies as efficiently as possible.

NATIONAL SECURITY

The final issue is the effect that lifting the Alaskan oil export ban would have on U.S. national security. There is serious concern that small, militarily useful tankers now employed in the Alaska oil trade would be scrapped if the ban were lifted. These tankers would then not be available for use in an emergency, such as a military sealift or increased domestic use of Alaskan oil during a disruption. Further, the trained seamen who operate these vessels may not be available. Of course, it is possible that some of these tankers could be employed on other petroleum shipping routes if the ban were lifted. Nevertheless, the administration is concerned that some of these ships will be unemployed. We are currently examining military tanker requirements to determine whether an alternative means of guaranteeing our security interests would be less costly to the economy than maintaining the Alaskan oil export ban.

CONCLUSION

Our analysis of the Alaskan oil export ban will not be completed until this fall, but one important conclusion has already emerged. The decision to retain or lift the current prohibition against exports must be based on a careful balancing of economic, energy security and national security concerns.

Initial results from the Contingency Planning Model show that the economic benefits derived from reducing transportation and refining costs far outweigh the economic costs imposed on the maritime industry. In other words, the U.S. economy as a whole would benefit from lifting the ban. As previously noted, however, the dislocations to the U.S. maritime industry would be significant.

In terms of energy security, lifting the ban also has positive effects. The reduction in U.S. net oil imports makes us somewhat less vulnerable to oil supply disruptions. The increase in secure world oil supplies, the removal of barriers to energy trade, and the strengthening of energy trade in the Pacific Rim serve to increase the energy security of all oil importing nations, including the United States.

The economic and energy security benefits must be weighed against the reduction in national security as the current subsidy to the domestic tanker fleet is reduced.

This concludes my prepared statement, and I would be pleased to respond to any questions.

Senator **MURKOWSKI**. Thank you very much for that presentation, Mr. Mares.

We will now proceed to the next witness, Mr. William K. Krist, Assistant U.S. Trade Representative for Industrial and Energy Trade Policy. We would ask that you proceed with your testimony, Mr. Krist.

STATEMENT OF HON. WILLIAM K. KRIST, ASSISTANT U.S. TRADE REPRESENTATIVE FOR INDUSTRIAL AND ENERGY TRADE POLICY

Mr. **KRIST**. Thank you very much, Mr. Chairman. I appreciate the opportunity to meet before this committee and discuss this complex issue of the exportation of Alaskan oil.

As my colleagues have noted, the administration has devoted considerable time and attention to this issue in examining what our policy should be. Let me very briefly just outline some of the trade policy aspects involved in the export of Alaskan oil.

There are several trade policy advantages that could accrue with the export of Alaskan crude oil. First off, removing these export restrictions would help underline our role as a dependable supplier. This administration has repeatedly stressed that U.S. exporters must be perceived as being reliable in order to compete effectively in the world market. Removing these export restrictions would emphasize this point.

Second, this administration is working toward the removal of barriers to free world trade. We have been striving to bring about an improved climate for free trade both with regard to market access and accessibility of supplies and to strengthen the international trading system.

The U.S. leadership in this effort is essential. Elimination of the restrictions on Alaskan oil exports could help demonstrate to our trading partners our commitment to this process.

Finally, Prime Minister Nakasone has been working diligently to expand access to the Japanese market. Removal of these export restrictions by the United States could well strengthen his hand in that process and encourage him to continue moving our trade relationship on to as constructive a direction as possible.

While these are significant trade policy advantages, we must also be mindful of the costs associated with removal of the restrictions on Alaskan oil exporters, which my colleagues have noted.

We are fully aware of the need to adequately review all of the implications involved with removing the ban on exporting Alaskan crude oil. We value and welcome the views of this subcommittee and the entire Congress in this process and look forward to working with you on this important issue.

[Mr. Krist's prepared statement follows:]

PREPARED STATEMENT OF HON. WILLIAM K. KRIST

The Reagan administration has devoted considerable time and attention to the complex issue of the exportation of Alaskan Oil in several different fora. The United States-Japan Energy Working Group, established by President Reagan and Prime Minister Nakasone in January 1983, has been examining the matter in the context of a broad range examination of long-term energy interests between our two nations. Various other Cabinet and sub-Cabinet level working groups in Washington and Tokyo have also spent considerable time on the matter as we seek to fulfill our strong commitment to energy cooperation. In addition, this administration is currently reviewing the domestic policy, political, and economic implications of exporting Alaskan crude oil, beyond the questions relating to trade with Japan and the Pacific Basin Rim countries.

As this subcommittee is aware, this is an enormously complex and sensitive issue which deserves careful attention. Any proposal to the Congress which would alter the current ban on Alaskan oil exports would need to balance several competing or conflicting interests. The issue of the export of Alaskan oil cuts across a range of administration priorities from national security, increased trade with Japan, a strong and profitable maritime industry, an adequate supply of petroleum at a reasonable price, the well-being of our domestic transportation system, our concern with west and east coast refineries which have been developed as a result of Alaskan oil, to the elimination of barriers to trade, at home and abroad. For these reasons, our review of the issue and our discussions with domestic interests and foreign governments is continuing.

Let me briefly outline some of the benefits and costs involved in the export of Alaskan oil. Several trade policy advantages could accrue with the export of Alaskan crude oil. First, removing these export restrictions could underline our role as a dependable energy supplier. This administration has repeatedly stressed that U.S. exporters should be perceived as reliable in order to compete effectively on the world market. It is a high priority for this administration to work in general for the elimination of policies that put U.S. exporters at a competitive disadvantage with other suppliers.

Second, the administration is working toward removal of barriers to free world trade. We are striving to bring about an improved climate for free trade and to strengthen the international trading system. The U.S. leadership in this effort is essential. Elimination of the restrictions on Alaskan oil exports could help demonstrate to our trading partners our commitment to the expansion of trade.

Finally, the President's policy of encouraging our allies to avoid dependency on Soviet energy resources could be enhanced by providing access to Alaskan oil.

While these are significant trade policy advantages, we must also be mindful of the costs associated with removal of the restrictions on Alaskan oil exports. These costs include underutilization of refinery and pipeline capacity which was developed to serve the lower 48 States, and the potential loss of business to the owners of the 68 U.S. oil tankers now employed in delivering oil to the west coast. Defaults on guaranteed mortgages on ships directly affected could be a significant cost to the U.S. Government, and could result in a loss of U.S. tanker resources to meet defense needs. These disadvantages must be weighed carefully against the trade policy benefits I have cited.

This administration is fully aware of the need to adequately review all of the implications involved with removing the ban on exporting Alaskan crude oil. We value and welcome the views of this Subcommittee and the entire Congress in this process and look forward to working with you on this important issue.

Senator MURKOWSKI. Thank you for that statement, Mr. Krist. I want to also indicate the committee's thanks, and as chairman of the Subcommittee on East Asian and Pacific Affairs to have you indicate to Ambassador Brock our thanks for allowing you to appear as a panel member and take a position with regard to the administation's stand on this issue.

I would also like to thank you, Mr. Mares, and ask you to pass on our thanks to Secretary Hodel and, of course, you, Mr. McCormack, to Secretary Shultz.

If I may proceed briefly with a few questions to each of you, I will start with Mr. McCormack. It is my recollection that on July 6 there was an article that appeared in the Journal of Commerce which quoted some unidentified Government official who was briefing reporters at the end of the last meeting of the United States-Japan Energy Working Group in Tokyo.

The official was reported as saying that the administration favors a partial lifting of the ban on Alaskan oil exports. I am wondering if you could elaborate, if in reality this partial lifting is based on a figure over the existing average production that is flowing through the trans-Alaska pipeline. Or is it some other partial concept? Is it likely to involve the utilization of U.S. bottoms as the criteria?

I wonder if you could clarify those points.

Mr. McCormack. Yes, Senator. I attended those meetings in Japan, and just let me say that we are engaged with the Japanese in broad discussions of our energy relationship and in broad discussions about the possibility of increased Japanese purchases of a variety of kinds of American energy, including natural gas, coal, and possibly oil.

But we have not offered them a package. We are in the early tentative stages of these discussions. We are scheduled to meet with the Japanese in September to move further into some of the details on this, based on some studies that are now underway. So at this point all of our options are open, but we are intensely interested in these discussions with the Japanese and they are obviously extremely interested in them themselves.

Senator Murkowski. Well, I recognize the delicacy of this type of subject, because it is a controversial one and there are obviously many sides and many opinions. Sometimes we are comparing apples and oranges in the sense that some studies are being made under the assumption that foreign vessels are going to be used if the ban is lifted, as opposed to U.S. vessels, which makes a significant difference and obviously results in laying aside the concerns of many. Other studies do not make that assumption.

But I had the pleasure of being present when the Secretary of State was asked his personal feelings concerning whether or not Alaska oil should be exported overseas. I believe I am correct in quoting the Secretary as saying that it was strange that the State of Alaska is specifically prohibited by Congress from exporting its energy resources. And basically he went on to say that he supported the export of Alaskan energy resources, which basically is, I think, with some qualifications, the position that your testimony supports.

It has been my observation, however, that there has been some hesitancy in the administration to come out and take a uniform position on that, and I wondering if you can elaborate for the benefit of the hearing record whether you think that this reluctance is economic, political, or otherwise.

Mr. McCormack. I think it is a fact of life that there are 230 cosponsors in the House who apparently are opposed to the sale of

Alaskan oil to Japan. It was our feeling that to make it possible to move more in this direction, a broader discussion with the Japanese that might involve Japanese investments in the United States and Japanese investments in some of our natural resources, possibly some purchases of coal, might make it a little more attractive for Members of Congress who are sort of sitting on the fence on this issue to move in the general direction of a decontrol of Alaskan oil.

So we are now at the exploratory stage in discussing with the Japanese, as I mentioned before, this general possibility, and once we have something concrete and something tangible then we are in a position to evaluate that in the political context.

Senator MURKOWSKI. Do you know whether the administration would support an amendment to the Export Administration Act which is going to be considered on the floor shortly, very possibly before the end of the current period prior to the recess, and in that amendment to the Export Administration Act, a proposal to consider lifting the ban on the export of oil?

Mr. McCORMACK. I will defer to my colleague from Energy on that.

Senator MURKOWSKI. I submit that to any of the witnesses.

Mr. MARES. I would have to say I do not have the information with which I could answer your question, Senator.

Senator MURKOWSKI. I would appreciate, since the record will be open for a 2-week period, if you would care to submit a position on that. It would be helpful, certainly.

Mr. McCORMACK. I would be happy to do so, Senator.

Senator MURKOWSKI. In considering and evaluating your various positions, was there consideration given specifically to the utilization of existing U.S.-flag vessels, or did you assume that the oil would probably go in foreign vessels, which has certainly been the case in some other analyses that have been made on the issue?

Mr. McCORMACK. The discussions we had with the Japanese were at the earliest and most tentative stage and in the most general stage. We did not get into the specific discussion about whether U.S. bottoms or Japanese or other bottoms would be used, except the Japanese did make this point. They said they were interested in American energy resources, provided it was priced competitive, and shipping is obviously going to be a critical factor in that overall context.

Senator MURKOWSKI. Speaking of shipping, in your opening remarks, you referred to a statement, Mr. McCormack, or you made the statement that environmentalists at that time wanted assurances that the volume of oil trade would not be so great as to harm an environment that we had little experience with. You are referring to the movement of Alaskan oil to market?

Mr. McCORMACK. Yes; that was a long time ago.

Senator MURKOWSKI. Yes, but it is still being moved to market and it certainly was a valid concern. Are you familiar with the consideration that was given at one time to the construction of some existing pipelines that were already in existence—and when I say "construction," I mean rehabilitation of existing pipelines from Long Beach to the gulf, a proposal that was first developed by Sohio that envisioned that the excess Alaska crude that would come down from Valdez and be marketed in the gulf would, rather than move by tanker, move by pipeline from Long Beach and hook up eventually into the system so that the oil would find its way into the gulf?

Mr. McCORMACK. Yes, I am generally aware of that from reading.

Senator MURKOWSKI. Do you recall what happened to that proposal?

Mr. McCORMACK. I believe they did not get the environmental impact statements that were required to make that construction possible, as I recall. As I say, this was some years ago.

Senator MURKOWSKI. So it was basically thrown out because of the environmental concerns, and I assume, if my memory serves me correctly, that those were based on a concern over the concentration of tanker traffic as one of the hindrances in Long Beach, and as a consequence, they felt the oil would have to move another way.

Mr. McCORMACK. That is my recollection, but I again defer to my colleague from Energy on this.

Mr. MARES. My recollection is similar, that they were unable to obtain all of the permits that were needed. I cannot describe the plethora of reasons that they were unable to, but they spent a lot of money and a long time and did not obtain a sufficient number of permits to allow them to make that movement.

Senator MURKOWSKI. Of course, that routing would have been substantially cheaper than transportation charges that are presently appropriate, because of multiple handling—namely, the fact that the oil moves in larger vessels from Valdez down to the west coast, moves across that 80-mile Panamanian pipeline, is again rehandled in the Atlantic isthmus, moved into smaller U.S. bottoms, and then distributed throughout the gulf.

Obviously, it is a substantial contributor to the cost of that oil. Do you know where the ships fuel that are in the trade today, moving approximately 700,000 to 800,000 barrels of oil, which is in effect excess to the west coast? Do you know where all those ships fuel?

Mr. McCORMACK. I do not know.

Senator MURKOWSKI. Does anybody know?

Mr. MARES. I do not know. I can speculate.

Senator MURKOWSKI. It is my understanding they all go into Long Beach to fuel today because there is no fueling facility in either Valdez or Panama. And Long Beach has the cheapest fuel available for tankers.

If that is true, we have made a full circle on what we have attempted to regulate from the standpoint of valid environmental concerns. But the realities exist that if you are going to run a ship, you have got to have fuel, and you have got to get fuel somewhere, so the ships fuel in Long Beach.

Some people have said there is a greater concentration of ships fueling in Long Beach today as there would have been had they allowed the pipeline proposal to go ahead from Long Beach and, of course, the taxpayer would have benefited immeasurably. But obviously those are things that we can only relate to in some general terms. But they certainly bring to mind questions about the transportation pattern we have developed as a result of current law.

You mentioned, Mr. Mares, the model that you used. Has this model been in utilization in the Department of Energy for some time?

Mr. **MARES**. We have been developing that, as I recollect, over the last 2 years, and, as I mentioned, we did a report which we will submit for the record of documentation of it, of last year. When we complete our analysis this year we will update the documentation so that it is available for current analysis.

Senator **MURKOWSKI**. Were you able to predict the excess on the west coast of crude oil, or did you just start plugging it in as it became a reality? Or is that the kind of forecasting the model does?

Mr. **MARES**. A model is validated by developing equations and then comparing it to the experience and trying to develop as close a correlation to the experience as you can, and then change input assumptions based upon policy changes, to then have the model help you predict what will happen.

No model is failsafe. It is a tool which we develop as carefully as we can. The structural assumptions are vital in its development. That is one of the reasons that we published the documentation a year ago and will again publish it, so that to the extent people who are knowledgeable want to evaluate it and challenge it—and we value that. We do believe, that, based on the reviews and discussions we have had of that model with other people who are knowledgeable of models and knowledgeable of the subject, it is a useful tool that can allow us to predict the impacts of policy changes; and we have used it to reach the general conclusion that lifting the ban would lead to net economic benefits to the Nation.

Senator **MURKOWSKI**. One of the witnesses yesterday expressed a concern about the continued rate of production of oil through the trans-Alaska pipeline, oil that would have to be developed from new fields and new findings. Are these a function of your model?

I mean, do you plug it in? We are having lease sales from time to time, OCS lease sales. The oil industry is moving out with exploration on gravel islands in the Beaufort Sea and there is discussion of exploratory drilling in various areas of the Arctic and so forth. At what point do you plug additional reserves in—when they are proven, or when the industry is expending $1 billion in exploration?

My question specifically is, is this 12-percent figure realistic, this 12-percent net on new field production? Do you have any comment on that estimate of what future production might be?

Mr. **MARES**. I do not want to get into the technical point of how one puts input into the model specific to your question. But, I would say that, from the basic approach to the model and the development of reserves and production and the response to price incentives, that is really what we are talking about, that there will be a net economic shift of resources by virtue of an enhanced price incentive that will lead to enhanced production in Alaska and California.

The reserves or the potential in Alaska is enormous, from my fossil energy hat, and the analysis that has been done by the National Petroleum Council and others. It is quite clear that the undeveloped and, in some cases, even undiscovered potential resources in the Arctic parts of Alaska are very, very substantial relative to the lower 48.

So I think the forecasts of production from Alaska contemplated those resources can be developed and would respond in a positive way to an increased financial incentive.

Senator **Murkowski**. I have another question for you, Mr. McCormack. Opponents of exports have argued from time to time that we should really keep the oil at home because we might need it in an international emergency. The United States, of course, has obligations under the International Energy Agency to share domestic oil with allies if a world shortage occurs.

Would the energy security of our country be jeopardized by exports or enhanced?

Mr. **McCormack**. It is our assessment that the energy security of the country would be enhanced by exports of Alaskan oil, for reasons I mentioned in my testimony, plus the fact that the larger the market there is for the oil, the more drilling and exploration is going to take place and the more other fields in Alaska will be opened and developed for potential use here and elsewhere.

Senator **Murkowski**. Another point that was made in earlier testimony is that any shortfall that would develop from allowing the export of Alaskan oil to the Pacific rim would have to be brought in from someplace else. One witness suggested it would probably come from the Mideast as opposed to Mexico, yet Mexico would seem to be a more logical alternative because of its geographic location.

Do you have any comment on that?

Mr. **McCormack**. Mexico or Venezuela or any one of a number of other countries.

Senator **Murkowski**. You do not believe it would necessarily come in from the Mideast?

Mr. **McCormack**. Not necessarily. I mean, there is shut-in capacity all over the world right now. I think some 13 million barrels per day production is currently shut in.

Senator **Murkowski**. Speaking for the State Department in this regard and taking into account our national security, the rationale that we have no prohibition about exporting refined products and in fact are exporting somewhere in the area of 670,000 barrels a day of refined product, approximately 10,000 of which are going directly to the Soviet Union with no restrictions, from a national defense standpoint how do you justify the prohibition against crude oil which obviously would not be as useful to the military in an emergency as the refined product?

Mr. **McCormack**. That would seem to be an anomaly.

Senator **Murkowski**. Would it be inconsistent with our policy?

Mr. **McCormack**. Perhaps our friend from the Department of Energy might care to comment on that.

Senator **Murkowski**. They are about due to pass one on to you here in a minute.

Mr. **Mares**. I would say your judgment is very sound, Senator.

Senator **Murkowski**. You think it is an inconsistency?

Mr. **Mares**. We think that there will be net benefits to the Nation by allowing the ability to export this oil.

Senator MURKOWSKI. You do not think it is in our national interest to prohibit the export of refined products just as we prohibit the export of crude products?

Mr. MARES. No, sir, we are not proposing that.

Senator MURKOWSKI. I suppose you could make a case for it if you favored the prohibition of export of crude oil. It is an interesting thing to observe, I guess.

Mr. MCCORMACK. I will say, Senator, I have heard no one propose that.

Senator MURKOWSKI. Not yet. Someday there could be somebody who might just propose it.

Mr. Mares, crude oil exports are restricted, yet petroleum products are exported freely. There is no licensing requirement either, is there, in this process of exporting refined products?

Mr. MARES. As I recollect, those restrictions have now been terminated. There were some restrictions for a while, but I believe the licensing aspect has been totally terminated.

Senator MURKOWSKI. Do you feel that the way we set trade policy in this country—we have a lot of players obviously, with the State Department, the Department of Commerce. We have, obviously, your agency, Mr. Krist, the U.S. Trade Representative. Who is accountable, in your opinion, for our trade policies in this country? We know who is promoting them, but who is accountable for coordinating policy, for assessing whether they are effective or ineffective?

We all have observed MITI in Japan, the operation of that, working closely with government and the private sector.

Mr. MCCORMACK. It is really a shared responsibility between the executive branch as a whole and the legislative branch as a whole. We bear joint accountability.

Senator MURKOWSKI. And then within the executive branch we have several agencies, so we have a lot of players.

Mr. KRIST. The President is ultimately responsible.

Mr. MARES. The President ultimately is responsible and the administration has made a proposal regarding trying to focus that responsibility within a more narrow focus.

Senator MURKOWSKI. Well, I cannot help but make the observation that we are Japan's largest customer and as a consequence we should be in a very strong position when we bargain with Japan on trade policy.

In your opinion, is that one of our negotiating points?

Mr. MCCORMACK. The Japanese are aware of the sensitivities of the United States with regard to the trade imbalance and they are anxious to purchase more from the United States, to the extent they can, and the discussions we had with them about energy and the discussions that the President has had with Prime Minister Nakasone have borne that central fact very much in mind.

Senator MURKOWSKI. Might we see, then, something—and I am thinking out loud, which can get me in trouble from time to time—whereby we might suggest to Japan that it would be in their best interest to open up long-term contracts for other energy resources from the United States, such as coal and gas?

Mr. MCCORMACK. We are in the process of having those very discussions with the Japanese now.

Senator **Murkowski**. And the Japanese are generally receptive to considering that?

Mr. **McCormack**. They are considering it and we are continuing to discuss it with them. What they say, however, is that it is imperative that any energy they buy from us be priced competitive.

Senator **Murkowski**. Well, I assume oil is like water; it finds its own level. And Alaska oil, as I said yesterday, is very expensive. It comes from that highest cost area of production and then it has to amortize the largest construction project in the free world and then it moves 4,400 to 6,000 miles to market and is handled twice. It ought to be competitive.

I assume you think it could be competitive even if moved in U.S. bottoms to Japan?

Mr. **McCormack**. I would hope that would be the case.

Senator **Murkowski**. I would, too.

In your testmony, Mr. Mares, you make an interesting observation. You say lifting the export ban would allow, not require, U.S. firms to export Alaskan oil. What you are really saying is it would allow a free market.

Mr. **Mares**. Absolutely.

Senator **Murkowski**. As opposed to the supposition that if we lift the export ban it is going to go to Japan. It might stay in the United States if the owners of the oil indicate that that is their best market and they can generate the greatest return. Is that not a possibility?

Mr. **Mares**. I think you have focused on a very fundamental point, Senator; namely, that by lifting the ban the market will be allowed to operate to allocate the resources and the individual decisionmakers can allocate the resources in the ways that make the most sense.

The analysis, in effect, is that they will make that judgment, and our best guess is that that will lead to some exports which will be beneficial to the national economy.

Senator **Murkowski**. Would you agree, Mr. Krist, that the idea of a free market from the standpoint of a particular trade policy that your office is promoting is probably in our best national interest?

Mr. **Krist**. Yes, sir. That is the fundamental principle of our trade policy, Senator, that the international trading rules are based on a concept of as minimum barriers and distortion to trade as possible, and we think that is the underpinning of sound trade policy.

Senator **Murkowski**. So I assume these issues do come up often. Can it be used to bargain for increased U.S. access to the traditional Japanese markets for citrus fruits, beef, and other things? Is this a lever or a fulcrum?

I guess the thing that one has to ask himself is, we are talking about a couple hundred thousand barrels maybe to Japan, if it does go to Japan. It is so insignificant in relationship to Japan's crude oil requirements, which are, I think, probably 3 million barrels a day or thereabouts. They have got a refining capacity of about 5 million. Why is it significant as a tool?

Mr. **Krist**. Well, I do not think that eliminating the ban on export of oil to Japan would solve our trade policy problem with the Japanese in any way whatsoever. Our trade deficit with them is some $18 billion a year right now, and obviously we are not talking about a magnitude that would begin to eliminate that.

We have been pressing the Japanese very hard for improved access in manufactured goods, in agricultural goods and what have you. This type of a process has a psychological impact, certainly. The Japanese are basically polite and do not raise the issue of Alaskan oil directly, but there are press articles in Japan, as in the United States, that if we are serious about reducing our trade deficit with Japan that one important point would be to reduce our own restrictions on exporting to Japan.

There was an editorial in the Wall Street Journal on that point—not too long ago—and it describes that kind of an impact. Whether it would be a lever to actually get concessions from the Japanese or not, I do not know. I would not want to oversell that, I think.

However, it would certainly improve market incentives for the Japanese to increase their investments in energy resources in the United States, and I think it would do a lot to strengthen Prime Minister Nakasone's efforts to move the process of opening Japan forward, but I would not at this point want to venture what kind of leverage it would be.

Senator **Murkowski**. I assume that we are seeing as a consequence of the slowdown in the economy a need to look at our overseas marketing capability, particularly in the area of energy, and market aggressively. I assume you would agree with that.

We also have a concern about the deficit in our trade balance with Japan, which is running $18 to $20 billion currently. It is my understanding that roughly 100,000 barrels of oil to Japan offsets that about $1 billion. Now you people, directly or indirectly, are involved in the trade policies of this country.

If we were to go ahead and lift the ban prohibiting exports, do you feel that this would weaken our ability to make our other concerns with Japan known, such as the increase in importation of Japanese automobiles, which is having obviously a substantial effect on our automobile industry inasmuch as we have by this method lowered the accumulated deficit in the balance of payments?

Have we lost some bargaining power? How do you rationalize that?

Mr. **McCormack**. Given the size of the deficit and the limited amount of contribution to dealing with that that the energy situation would provide, I think that it would not reduce our voice in this area and not reduce the urgency with which we are addressing some of these other concerns.

Senator **Murkowski**. We have heard the export opponents argue from time to time that certifications that are in the law, which have been discussed, now protect the American consumer and, of course, the national interest as well. But I wonder, do they? And in view of the testimony which you have given pretty uniformly, if the administration had to certify that exports were in the consumer's best interests now and in the national interest as well, could you not in effect certify to that today?

Mr. **McCormack**. Personally I would.

Mr. **Mares**. I would be happy to address that.

Senator **Murkowski**. Let me get you all to answer this one, obviously. Mr. McCormack, you have answered it. You said what?

Mr. **McCormack**. I would say yes.

Mr. **Mares**. I would say from the national standpoint yes. However, within the subgroup of the west coast consumers, we think that there will be some increased prices in heavier petroleum products, and that gives us pause about being able to make the assertion that is in the statutory requirement that a certain percent of the savings will be passed on to consumers.

Senator **Murkowski**. Is your model going to be able to tell you what that is likely to be? Is that in your model now?

Mr. **Mares**. That point of an increase in heavy product prices, in the western markets, is one of the outputs from our economic analysis.

Senator **Murkowski**. Is this what we call a west coast discount?

Mr. **Mares**. Yes, it is the consequence of the west coast discount. That is correct.

Senator **Murkowski**. And there seems to be a great disparity in what that might be, and I assume you are going to be able to tell us at some point in time what the Government thinks it is.

Mr. **Mares**. Yes, I believe it is in my formal testimony, although I did not state it here. But as I recollect, it is on the order of a couple dollars a barrel, but I will provide that for the record.

Senator **Murkowski**. All right. I would appreciate that.

[The information referred to follows:]

In our analysis to be published this fall, we will provide estimates of the magnitude of the west coast discount under a range of policy options. Over the last several years, the Alaskan crude oil discount on the west coast has ranged from zero to $3 per barrel, varying according to how producers were able to offset sales prices with other costs in windfall profit tax calculations. Our preliminary estimates indicate that west coast consumers currently pay about $.98 per barrel less than the rest of the country for high sulfur residual fuel oil. The west coast discount for lighter products is less than 10 cents per barrel.

Mr. Krist.

Mr. **Krist**. Yes, Senator. I would agree with my colleagues that on the whole the consumers would benefit.

Senator **Murkowski**. On the whole the consumer would benefit. Having been in the gas deregulation hearing this morning, the consumer will perhaps take some heart at your statement that with regard to oil, at least, they would benefit.

I would ask you, as administration witnesses, the other questions you have indicated you would submit, that the record will be open for a period of 2 weeks. The Chair may direct additional questions to you that we would like to have answered as well.

I want to compliment you. I think you have given, after, I am sure, a good deal of discussion and consideration within your various offices, some very excellent and enlightening testimony to make a record. I think it is clearly stated that with qualifications you feel it is in the national interest to consider the export of Alaskan oil. The question is what are the considerations, and the realities of U.S. bottoms, I assume, would also give you concern to look favorably.

I think we have pretty well covered the issue and I want to thank you for appearing and I wish you a good day.

Mr. **McCormack**. Thank you very much, Senator.

Mr. **Mares**. Thank you.

Mr. **Krist**. Thank you.

Senator **Murkowski**. Our next witness will be Mr. C. N. Winningstad, chairman and chief executive officer of Floating Point Systems, Inc., Portland, Oreg.

I would call to order the hearing room. I would like to advise the stenographer at this time that we are submitting for the record statements by Governor Sheffield, Governor of Alaska, Representative Bob Bettisworth of the State legislature, house of representatives, Senator Hatfield from the State of Oregon, and other statements as well.

[The information referred to follows:]

State of Alaska,
Office of the Governor,
Washington, D.C., July 19, 1983.

Hon. Frank H. Murkowski,
Chairman, Subcommittee on East Asian and Pacific Affairs, Committee on Foreign Relations, U.S. Senate, Washington, D.C.

Dear Chairman Murkowski: I am pleased to submit the attached paper on the national interest in Alaska oil exports for inclusion in the record of the hearings you are conducting on that subject. I would also like to commend you for bringing together a wide array of expertise to discuss the various sides of the issue. Your hearings will undoubtedly further the understanding of Congress on this important subject.

As you will note, the State's paper recommends that a limited amount of Alaska oil (200,000 B/D of existing production and future production) be authorized for export on U.S.-built tankers manned by American crews and subject to certain Presidential findings and a Congressional veto. Our analysis has led us to conclude that such exportation would be in the national interest for a number of reasons, including increased Federal revenues, strengthened national security, accelerated domestic oil development, a better balance of trade, and the establishment of a better oil pricing mechanism for North Slope crude.

I appreciate the opportunity you have provided to express the State's position on this important matter. If we can be of further assistance in your deliberations on Alaska oil exports, please let us know.

Sincerely,

Bill Sheffield,
Governor.

The National Interest in Oil Export

SUGGESTED APPROACH

There are currently several layers of statutory restrictions on the export of crude oil. These restrictions were well intended, but they have not yielded beneficial results to our nation. We are proposing that export restrictions be relaxed to permit the limited export of crude oil (200,000 B/D of existing North Slope production and future production). This export would occur on American built tankers using U.S. crews and maintained in U.S. shipyards. We do not propose the repeal of the existing requirement for a Presidential finding that such export would be in the National interest (subject to Congressional veto). We feel this approach would produce very significant benefits to the United States.

BENEFITS OF LIMITED OIL EXPORT

A large increase in Federal revenues.—Oil exports from Alaska to Pacific Rim nations would result in significant transportation savings as the shipping route to those nations is shorter and more direct than to the U.S. Gulf Coast where one half of Alaskan oil is currently transported. Depending on world market conditions, these savings could mean an additional $170 million in annual windfall profit tax payments to the U.S. treasury assuming export of 200,000 B/D.

Strengthened national security.—Oil exports from the U.S. to our Pacific Rim allies would correspondingly reduce to the same extent their reliance on unstable foreign sources and the likelihood of a natural gas joint venture between the Japanese and the Soviet Union.

A more favorable trade balance between the United States and Japan and the U.S. and Mexico.—Should the Japanese purchase Alaskan oil, it would substantially reduce our $18 billion trade deficit with Japan. Mexico has the ability to increase deliveries to the Gulf Coast which would help reduce its foreign debt, much of which is held by U.S. lending institutions. In addition authorization for limited exports could provide the basis for securing significant trade concessions from Japan and other Pacific trading partners (e.g. automobile, agricultural imports).

Increased oil production in Alaska.—The opening of new markets for Alaskan oil will serve as an incentive for increased exploration and development of oil in expensive frontier areas. It may also encourage additional investment in developing Alaska's oil, gas, and coal resources.

The establishment of an objectively ascertainable value for Alaskan oil.—Limited export of Alaskan oil would result in an easily determinable price at Valdez (terminus of Trans-Alaska pipeline). This price is very important in the computation of federal and State taxes and is key to a dispute over oil pricing practices which involves the ability of independent refiners and marketers to compete with some of the major North Slope producers. It would also help to avoid additional costly future litigation.

Using this approach, these desirable goals may be obtained without penalty to U.S. consumers and the U.S. maritime industry.

Much of the opposition to export of some volume of Alaska oil has been generated by arguments based on extreme assumptions. These include threats to national security premised on the exportation of all (1.6 million B/D) production of Alaskan oil, threats to the maritime industry on the assumption that foreign tankers would carry exported oil, and impacts on the American consumer based on the acquisition of higher cost replacement oil.

These threats would not materialize under the State of Alaska's proposal.

National security would not be compromised; it would be strengthened.—Strong support for limited export (200,000 B/D) has been expressed by the President's advisors at the National Security Council.

The U.S. merchant marine industry would not be penalized as U.S. (Jones Act) oil tankers with U.S. crews would carry any export oil. Merchant marine employment should actually increase as new oil production results from incentives created by an export market.

There would be no adverse impact on consumers as the price of oil, adjusted for quality differentials, is generally determined by the world oil market. In a free market, replacement oil should be available on the Gulf and East coasts at the same price as North Slope crude. Oil exchanges may be arranged which would have the net result of lowering transportation costs.

It should be noted that current law permits the export of minimally refined products. It is anomalous that this is permitted while crude oil may not be exported. Approximately 700,000 B/D of these products are currently being exported from the United States.

In summary, several very significant national benefits may be obtained by a relaxation of restrictions on oil exports. By utilizing the approach suggested here, the benefits of export may be obtained without incurring liabilities.

Prepared Statement of Hon. Mark O. Hatfield, a U.S. Senator From Oregon

Mr. Chairman and members of the subcommittee, thank you for allowing me the opportunity to appear before this panel to present arguments in favor of extending a crucially important provision of the Export Administration Act. That provision, section 7(d), allows the export of Alaskan oil only under certain conditions which, as a result, ensures that Alaskan North Slope [ANS] oil will be exported only if the national interest and the interest of U.S. consumers are served.

These restrictions are prudent. They are essential to our energy security and to the security of our Nation. Consequently, I have introduced S. 1159, which extends the current Alaskan oil export restrictions indefinitely. This measure has been cosponsored by 40 other Senators, and a similar bill has 235 cosponsors in the House. Three times in the last 10 years, both the Senate and the House have voted by large majorities to impose restrictions on the export of Alaskan oil. The present law, which contains these conditions, establishes four basic tests that must be met before export of Alaskan North Slope oil is allowed. First, a tangible consumer benefit must be established. Second, preservation of national energy security must be demonstrated. Third, inclusion of contractual provisions permitting cessation of exports in an emergency is provided. And, fourth, general enhancement of national interests has to be shown. The law also provides a sensible and balanced procedure for determining if and when the conditions have been met . . . a Presidential finding followed by Congressional approval within 60 days.

The ground swell of support for this measure is a reflection of the American public's attitude towards sound energy planning, national security and economic well-being. Mr. Chairman, our constituents will not forget how our economy and national security were shaken by two major oil crises in the last decade. When the international economy emerges from today's global recession, our ability to act—as we must—as a nation, unbounded by the dictates of petroleum—exporting nations, whose interests are not our own, will be determined by the foresight with which we address the future today.

We have all heard that selling Alaskan oil to Japan will be cost-effective, will improve our trade relations with that country, will benefit American consumers, will encourage development of new oil reserves and will increase federal revenues. None of these arguments has any strength, however, when they are carefully and objectively scrutinized.

Why is it cost effective, for example, if we replace the Alaskan oil that would be exported to Japan or other nations with higher-priced Middle Eastern oil? It is short-sighted to believe that Alaskan North Slope oil displaced from U.S. refining centers on the gulf and eastern coasts will be replaced by Mexican oil. Mexican oil is not a suitable replacement for Alaskan North Slope oil due to a combination of the already high levels of Mexican oil exports to the United States and the technical constraints in U.S. refineries. Therefore, we would be left with Saudi Arabia or some other Middle Eastern country as the most suitable replacement of oil resources. Even if this oil was less expensive than Alaskan oil, and I might add that recently it has been selling at a higher price than Alaskan North Slope crude, this policy would raise serious questions about our national security priorities. Should we alleviate Japan's dependence on Middle Eastern oil imports at the expense of an increase in our reliance on OPEC and Middle Eastern oil? I think not.

We should also question the exact nature of the so-called improved trade relations with Japan that will result from exports of Alaskan oil. First of all, it is almost certain that exports would entangle us in delicate international oil trade relations. We would be faced with the difficult problem of cutting exports off at the very moment that pressures to keep them flowing were most intense. The political costs of stopping exports would be extremely high, while the economic costs of not doing so would be equally severe. This is a dilemma we can and should avoid. Secondly, exports would only artificially reduce the U.S./Japan trade imbalance, leaving unaddressed the deep-seated structural trade problems between the two nations. I do not believe that wiping out a large part of our trade deficit with Japan without gaining concessions on import barriers or unfair export promotion policies is an "improved" trade relationship with Japan.

In addition, it must be realized that our overall balance of trade with all countries would see no appreciable improvement and, indeed, might even be worsened by exports of Alaskan North Slope oil, since these exports will have to be replaced by imports.

This change in trade patterns, replacing exports with imports, will also result in higher, not lower, prices to consumers. First, consumers will lose the benefits of favorable supply/demand balances and market forces in the U.S. market. Although proponents of exports argue that world oil prices are uniform since the decontrol of domestic oil prices in early 1981, Alaskan oil has sold at prices appreciably below those of imported oil. Data from the Department of Energy and the State of Alaska show that prices were five dollars-per-barrel below imported prices on an average basis.

Some proponents of exports expect, Mr. Chairman, that there are large, undiscovered oil reserves in Alaska and that additional incentives via higher wellhead prices facilitated by exports are required if these deposits are to be found and developed.

I believe that it is very unlikely that new oil and gas fields will be found or developed as a result of exports. At most, production from those fields that would have otherwise been found and developed will be accelerated slightly, by perhaps 100,000 to 200,000 barrels-per-day. Rather than an addition to national energy resources, an accelerated drawdown of national reserves for the sake of exports is likely to result. I do not believe that such a drawdown is in our long-term economic interest or in the interest of our Nation's energy and overall national security.

The last point I would like to raise here today has to do with claims that exporation of Alaskan oil will increase Federal revenues dramatically. This is simply not the case; net Federal tax revenues would not be increased. In order to achieve significant increases in Federal tax revenues, it is necessary to export large volumes (in excess of 700,000 barrels-per-day) of Alaskan oil. However, if large volumes of Alaskan oil are exported, the Federal Government will also experience offsetting financial losses that will seriously reduce the tax gains anticipated from exports, thus wiping them out or creating losses in the short term. One-time U.S. tanker-related losses stemming from defaults on Government insured (title XI) and uninsured loans are estimated to be in the $715 million to $1.43 billion range. Furthermore, annual losses in tanker and maritime related income tax payments are estimated to be $300 million per year. Another unquantified item is the 15,000 to 20,000 maritime-related jobs and resulting unemployment compensation payments that would be lost with exports.

Minimal exports of Alaskan oil also offer few benefits to the Federal Government. If Alaska State royalty oil (which amounts to 189,000 barrels-per-day) is exported, the Federal Government will experience no revenue gain. This will occur because State oil production is not subject to Federal taxes.

Thank you, Mr. Chairman and members of the subcommittee, for the opportunity to express my views on this issue. The limitations that I and the other cosponsors of S. 1159 propose are both important and prudent, and they preserve a strong Congressional role. In short, they serve our Nation's interest and, most significant of all, enhance our national security.

Prepared Statement of Representative Robert H. Bettisworth, Chairman, Legislative Budget and Audit Committee, Alaska State Legislature

Senator Murkowski, Senator Baker, Senator Helms, Senator Glenn and Senator Cranston: It is my privilege to represent the Alaska Legislature as chairman of the Legislative Budget and Audit Committee, a permanent and statutorily mandated committee that concerns itself with performance and financial audits of state government and legislative functions; the Committee also is charged with oversight responsibilities on the State's revenue sources, expenditures, bonding capacities and many other fiduciary matters.

In its analysis of revenues, my committee is concerned that Alaska be treated fairly and equitably and that the State of Alaska, in turn, deal with its corporate and government neighbors in fair and equitable terms.

In this regard, my committee has had under study the export of Alaska oil and the implications of the strict ban on export that applies to Alaska only.

While we as a Legislature or Legislative committee can not directly involve ourselves in "foreign policy" determinations of the United States of America, we find that we as a State are at times very much a major factor in foreign policy determinations. United States military installations and strategic communications are just two significant examples of important links Alaska has with national foreign policy.

Our studies are showing us that Alaska's hydrocarbon resources can be a very important tool or "instrument" in foreign policy determinations that America and the Pacific Rim nations are now conducting.

Political leadership in Alaska is unanimous in its support for lifting the ban on export of Alaska royalty oil (200,000 barrels per day approximately). That leadership includes Governor Bill Sheffield, Senator Ted Stevens, Senator Frank Murkowski, Congressman Don Young, and the Alaska State Legislature.

It is clearly in the national security interest to seriously consider lifting the export ban on some of Alaska's hydrocarbon resources.

It is clearly in Alaska's interest to seek the broadest free market conditions for the most efficient use of its hydrocarbon resources. Likewise, it is in the nation's interest to consider this free market concept as a significant factor in reducing massive trade deficits that exist with Pacific Rim trading partners and with Mexico.

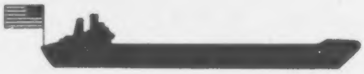
Limited export of Alaskan oil would provide a view into pricing schedules and could provide a more clear picture of the product value at Valdez (Valdez is the deepwater port in south Central Alaska where the Alaska North Slope crude pipeline terminates). The true value of each barrel of crude is not now known, we believe. This is important to the federal government (and to Alaska) in calculating taxes on the valuable hydrocarbon resource.

It is the perception of most Alaskans that international trade emphasis is moving from historic Atlantic/Europe regions to the Pacific and north Pacific regions. If this is the case, Alaskans want to be heard as trade agreements are formulated.

A briefing paper

THE ALASKA OIL EXPORT BAN

SPECIAL INTEREST LEGISLATION THAT HURTS AMERICA



THE ALASKA OIL EXPORT BAN

Special interest legislation that hurts America

A briefing paper by
the Legislative Budget and Audit Committee
Juneau, Alaska

With the exception of the background paper by Dr. Charles Ebinger, the following statements were presented from the podium at the legislative briefing on the Alaska oil export ban at the Anchorage Westward Hilton on April 23, 1983. The transcripts were edited for clarity and to avoid duplication. The text herein may be reproduced in part or in its entirety.

—The Legislative Budget and Audit Committee

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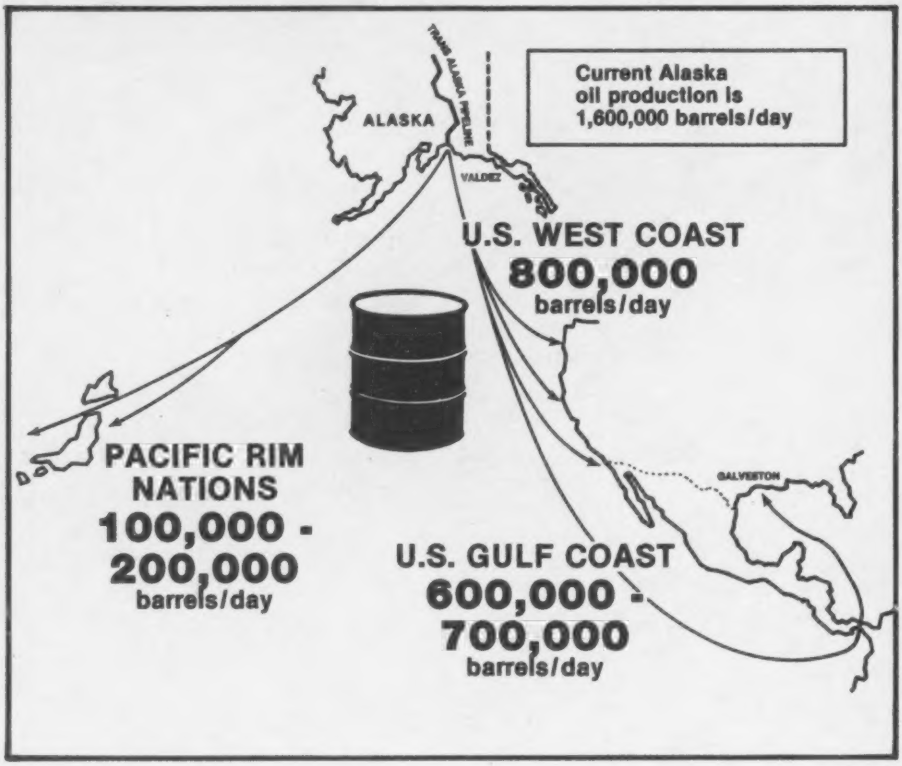
ESTIMATED MARKETS FOR ALASKA CRUDE OIL IF EXPORT BAN IS LIFTED


TRANS ALASKA PIPELINE
ALASKA
VALDEZ
Current Alaska oil production is 1,600,000 barrels/day
U.S. WEST COAST
800,000
barrels/day
PACIFIC RIM NATIONS
100,000 - 200,000
barrels/day
GALVESTON
U.S. GULF COAST
600,000 - 700,000
barrels/day

INTRODUCTION

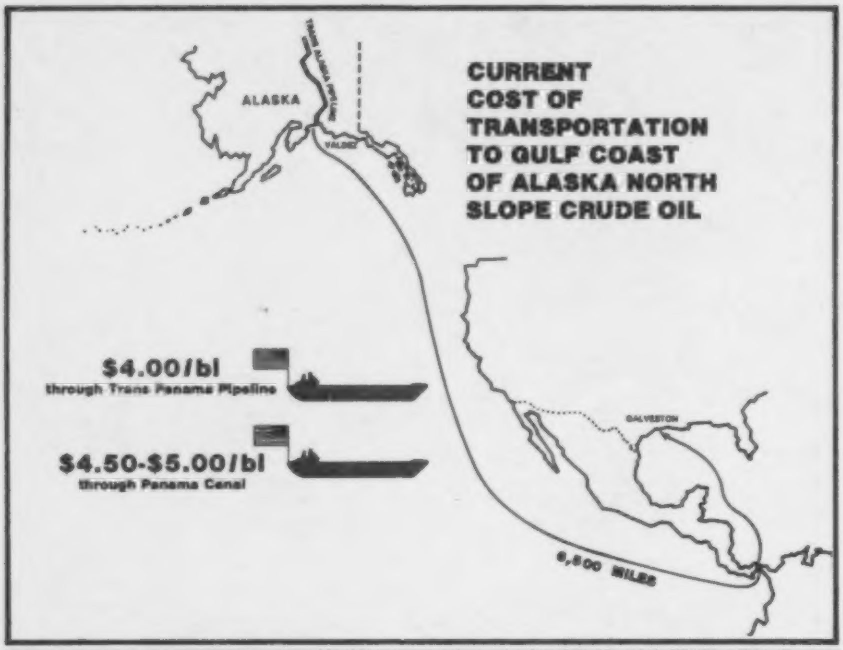
It has long been my belief that the ban on Alaskan oil exports unnecessarily blockades Alaska from her natural markets and hurts the U.S. economy as a whole. For this reason, a legislative briefing was held April 23, 1983 at which national implications of this issue were addressed.

Participating were authorities on the U.S. economy, international trade and national security, along with members of the Alaska congressional delegation and representatives of Governor Sheffield's administration.

Although over 250 prominent Alaskans, including two former governors, attended the briefing, the testimony was of such significance that it has been edited and published herein in order to be available to all interested citizens.

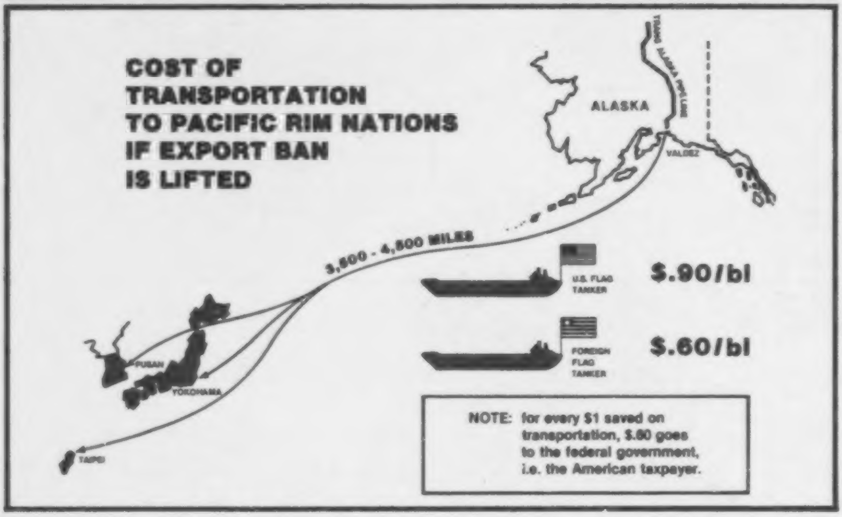
My thanks to my colleagues in the legislature who participated in this briefing, to my committee and to Senator Bettye Fahrenkamp and Representative John Cowdery, co-chairmen of the joint Senate/House Oil and Gas Committee, who co-sponsored this important event.

Representative Bob Bettisworth
Chairman
The Legislative Budget and
  Audit Committee
Juneau, Alaska
May 1983



CURRENT COST OF TRANSPORTATION TO GULF COAST OF ALASKA NORTH SLOPE CRUDE OIL

ALASKA
TRANS ALASKA PIPELINE
VALDEZ
$4.00/bl
through Trans Panama Pipeline
$4.50-$5.00/bl
through Panama Canal
GALVESTON
6,500 MILES



COST OF TRANSPORTATION TO PACIFIC RIM NATIONS IF EXPORT BAN IS LIFTED

TRANS ALASKA PIPELINE
ALASKA
VALDEZ
3,500 - 4,500 MILES
U.S. FLAG TANKER
$.90/bl
FOREIGN FLAG TANKER
$.60/bl
PUSAN
YOKOHAMA
TAIPEI

NOTE: for every $1 saved on transportation, $.80 goes to the federal government, i.e. the American taxpayer.

Source: U.S. Department of Energy

Note: in some cases, figures have been averaged, as variables include ship size and length of contracts.

THE BACKGROUND

by Dr. Charles Ebinger

The following background paper was prepared by Dr. Charles Ebinger, Associate Director, Energy, Resources and Security Studies Program at the Center for Strategic and International Studies, Georgetown University, Washington, D.C. Dr. Ebinger is the author of The Critical Link: Energy and National Security in the 1980s. Note: This paper represents only the views of the author and not that of the CSIS or Georgetown University.

Significant quantities of oil were first discovered on Alaska's North Slope (ANS) at Prudhoe Bay in 1968. Approximately 9.6 billion barrels of oil were proven as economically recoverable reserves; now, about 8.5 billion barrels of proven oil reserves remain on the North Slope, with billions of barrels believed to exist in new onshore and offshore acreage.

With world crude oil priced at $1.80/barrel at the time of the Alaskan discoveries, the ANS fields were of limited short-term economic worth to the major oil producers responsible for the exploration and eventual production. The first price shock of 1973-74 (wherein Saudi Light prices jumped from $3.39/barrel to $11.28/barrel) immediately made the ANS reserves an economically viable production consideration.

A cost-effective transportation system first had to be designed in order to ensure that crude produced in an extremely hostile climate far from Lower 48 markets would be capable of recouping very high production costs on a competitive basis. The competition from Texas and/or Persian Gulf producers was severe, both in terms of marginal costs of production and in the increasingly sophisticated international transport infrastructure linking tankers with crude and product pipelines and distribution centers.

No such transport or services infrastructure existed in Alaska, and the technologies necessary to produce and expand operations in the Arctic were still in their incipient phase. When the Organization of Arab Petroleum Exporting Countries (OAPEC) embargoed the United States and the Netherlands and simultaneously engineered a sizable production cut, the nation's first real energy crisis (but not its first energy scare) prompted a renewed effort to reduce American oil vulnerability through a domestic 'oil proliferation' program.

The ensuing congressional debate found environmental and maritime interests joined in unison to keep the new ANS oil solely for U.S. consumption. Many became suspicious when the major oil companies argued against building a lengthy crude oil pipeline stretching from Prudhoe Bay through Alaska and western Canada and then into the northern United States, fearing that the producers had a secret agenda for exporting the nation's frontier resource patrimony.

"Environmental and maritime interests joined in unison to keep the new Alaska North Slope oil solely for U.S. consumption."

The ANS producers instead proposed a more flexible route, one the diverse maritime interests would support because it relied upon the protected Jones Act tanker fleet: crude would be piped from Prudhoe Bay 800 miles south to the port of Valdez, where U.S.-flag oil tankers would load the oil and complete the voyage south to the U.S. West Coast and the U.S. Gulf Coast (after transiting the Panama Canal).

The Trans Alaska Pipeline System (TAPS) Authorization Act of 1973 enabled pipeline construction to begin with the stipulation that ANS output would be reserved for domestic use. The relevant provisions in the TAPS Act do not in all cases forbid exports; rather, exports are rendered infeasible because of the difficulty posed by meeting the objections raised in the legislative statutes (including but not limited to the TAPS Act) that have collectively been labelled "the exports ban."

Legislative Impediments

The Export Administration Act of 1969 granted the president the authority to impose export controls to deny the export of scarce domestic natural resources, including crude oil. The following year U.S. crude oil production (exclusive of natural gas liquids) peaked at 9.6 million barrels per day (mmbd), and serious concern for continued economic expansion in the face of a worsening oil supply situation spread throughout Congress and the public.

The TAPS Act of 1973 reinforced the 1969 legislation by harking back to an early federal resource act. In accordance with Section 28 of the Mineral Lands Leasing Act of 1920, crude oil transported through pipelines granted rights-of-way over federal lands (such as TAPS) is restricted from export. 1977 amendments to the Export Administration Act contain the same restriction. Both those amendments and the TAPS Act further require a presidential finding that the proposed export would serve the national interest, and both allow for congressional review of the president's reported findings. In an identical exception, however, both statutes allow for exchanges of crude oil of like quantities with adjacent foreign states "for convenience or increased efficiency of transportation."

The Energy Policy and Conservation Act (EPCA) of 1975 directs the president to establish regulations restricting crude oil exports. Section 103(b) permits exceptions to be determined by the president based on the national interest, but the accompanying Senate conference report directs the president "to assume that exemptions do not result in greater reliance on imports."

Several additional findings must also be considered. The TAPS Act requires that the proposed export not diminish the quantity or quality of crude oil entering the U.S. market. Further, the 1977 Export Administration Act amendments and Section 7(d) of the Export Administration Act of 1979 specify: (1) that the proposed export of exchange will benefit the consumer through reduced average refinery acquisition costs within a period of three months; and (2) that in case of an oil supply disruption, the proposed export or exchange will be terminated.

ANS crude may, therefore, be exported in accordance with a set of rigorous limitations. There is even an emergency provision, dating back to the Egyptian-Israeli Sinai II disengagement agreement, to export ANS crude to Israel to meet that state's fuel requirements should the need arise. There is also a stipulation in the TAPS Act (Title IV, Section 410) requiring a regionally-equitable distribution of ANS crude throughout the United States which some have construed as another (albeit implicit) restriction on exports.

"More than 50 percent of future U.S. oil discoveries are expected to be found at or near the North Slope."

Those who favor the removal of export restrictions face a difficult time defining how the national interest is served, how refinery acquisition costs can be lowered within three months primarily from the export of ANS crude, or how increased reliance on imports can either be avoided or rendered insignificant.

North Slope Exports: The Reasons For

The advocates of removing the several restrictions on exports have phrased their arguments in both a free trade and a symbolic, foreign policy framework. The economic arguments do not rely necessarily on Alaska's oil resource base, but it has proven a good place to begin for proponents of exports.

While it is true that Prudhoe Bay constitutes 90 percent of Alaskan oil reserves--about one-third of the 29 billion barrels of remaining proven U.S. reserves--and that total ANS production is scheduled to decline from 1.6 mmbd today to an estimated low range of 400,000 to 600,000 barrels per day by the year 2000, it is also true that more than 50 percent of future U.S. oil discoveries are expected to be found at or near the North Slope (including offshore in the Beaufort Sea) and the Bering Sea basins off Alaska's west coast.

The upper bound estimates for Alaskan production reach beyond 2 mmbd. U.S. taxation regimes and world oil market scenarios clearly play a determining role in the calculation of future supply estimates, so it is not coincidental that those envisaging a tighter oil market with rising prices also tend to estimate high Alaskan production profiles.

Where will this new production originate? On the North Slope the Kuparuk River Field awaits full exploitation, as does the Arctic Wildlife Refuge, the Lisburne formation, and the Naval Petroleum Reserve.

Offshore the most promising oil and gas provinces are located just north of Prudhoe Bay in the Beaufort Sea, where $2.1 billion in lease bids were auctioned by the U.S. Department of Interior in October, 1982; off Alaska's west coast in the Navarin, St. George's and Norton Basins in the Bering Sea; and the Chukchi Sea and Bristol Basin along the Aleutian Island chain. Economically recoverable oil and gas reserves are estimated by the National Petroleum Council to range between 44 and 49 billion barrels of oil equivalent. The pace of oil recovery in the inhospitable Arctic primarily depends, therefore, not on the future discovery rate but rather on the future world oil price trend.

"Economically recoverable oil and gas reserves are estimated by the National Petroleum Council to range between 44-49 billion barrels of oil equivalent."

There is an implicit assumption, then, made by proponents of exports (or more accurately 'pro-choice' advocates) that there is substantial Alaskan oil awaiting recovery and that future prices will be high enough to sustain new operations to keep the TAPS economically viable.

Economic Efficiency Is Advanced

The argument is as follows: were a freer market operating with no export restrictions, a portion of ANS crude would be exported to markets in East Asia, principally Japan. One must examine the domestic markets that are now served in the Lower 48 to understand why this is so.

"Jones Act regulations provide an exclusive monopoly to U.S. flag ships for all domestic intercity (port to port) shipborne freight."

ANS crude must be shipped pursuant to Jones Act regulations, which provide an exclusive monopoly to U.S. flag ships for all domestic intercity shipborne freight. The transportation of ANS crude accounts for more than half the business conducted by the Jones Act tanker fleet. It is contended that the majority of Jones Act tankers, however, are aging, inefficient, and uncompetitive with foreign flag vessels. The inefficiency stems from: very high labor costs; direct tax subsidies for construction and operating costs; indirect tax subsidies from wellhead-price manipulation by vertically integrated oil-and-tanker companies, allowing greater shipping costs to be offset against reduced wellhead netbacks.

There are two entry points for ANS production in the Lower 48: the U.S. West Coast and the U.S. Gulf Coast. The West Coast is a much closer terminus than the Gulf Coast, and is a more desirable market for offloading ANS crude because of reduced transportation costs. Thus, a 'West Coast price discount' has developed to enable ANS producers to market more of their crude on the West Coast. Current shipments of ANS crude entering the West Coast are placed at about 800,000 barrels per day.

With ANS production at about 1.6 mmbd, there is now (and has been for several years) a 'surplus' of another 800,000 barrels per day that cannot be marketed on the West Coast. Fully half of the ANS crude output is therefore marketed on the U.S. Gulf Coast. There is only one route for transporting the surplus: on Jones Act tankers passing through the Panama Canal or through the new 81-mile Trans Panama Pipeline and then to the Gulf Coast or to Caribbean refineries.

Why then would ANS crude be marketed in Yokohama rather than in Houston? Using rough figures, a comparison of transportation differentials between markets offers the following comparison:

Table 1

Valdez to Japan	$0.50
Persian Gulf to Japan	1.00
	$0.50
Valdez to Gulf Coast	$4.00*
Persian Gulf to Gulf Coast	2.00
	$2.00

*With Trans Panama Pipeline ($5.00 without)

The world oil market is here considered unitary, with prices set in the Persian Gulf affecting prices offered everywhere else. There are of course quality adjustments, but a disruption in Persian Gulf production, for example, would have pervasive price effects throughout the entire system. Alaskan oil is no exception.

"The world oil market is considered unitary."

There is, then, an efficiency loss equalling $2.50/barrel (the difference between the most and the least expensive transport costs of providing oil both to Japan and to the Gulf Coast). From these equations, it is argued, consumers everywhere lose because economic efficiency has been sacrificed resulting in higher delivered-costs to both markets. It is further argued that while Valdez-to-Gulf Coast is just twice the distance from Valdez-to-Japan, transportation costs (as shown in Table 1) are 10 times as high. The bulk of this otherwise anomalous expense is directly attributable to Jones Act tanker costs, which do not compete with foreign-owned tankers in the U.S. trades.

"There is an efficiency loss equalling $2.50/barrel."

Deficits Will Be Reduced

Taxes are levied on Prudhoe Bay production by both the state and federal governments. The single largest tax is the federal Windfall Profits Tax, accounting for $0.52 of each netback dollar--the 'netback' being the wellhead price minus transportation and tariff costs. Federal corporate taxes are also levied against North Slope producers, as are State of Alaska royalty, severance, and income taxes. The oil companies are thus left with about $0.08 profit on each dollar of netback.

If transportation costs are reduced by exporting ANS crude, then the wellhead netback (the basis for all taxation) will correspondingly increase. Increased Windfall Profits Tax payments would follow, reducing federal deficits by billions of dollars each year. Debt losses approaching $2 billion from federally-insured Title XI mortgage loan guarantees for shipbuilders and tax losses from ship-operators are essentially short-term and will be countered by a much greater and longer-lived revenue increase.

Exploration and Production Will Be Encouraged

Alaska royalty oil and new ANS production (including the OCS lease sales acreage) is exempt from the Windfall Profits Tax. Exploration to prove up and later develop new reserves will be necessary to compensate for Prudhoe's projected decline.

Exploration and new production will be encouraged under an export policy, because greater wellhead netbacks offered by exports will result in increased company profits (on the order of six times the amount now allowed per wellhead dollar). Japanese investment may also be expected to flow to the North Slope for increased oil and gas exploration, as it has in other industrial sectors in Alaska.

The Trade Deficit With Japan Will Be Reduced

If the entire West Coast surplus were exported to Japan--800,000 barrels per day--at average quality-adjusted delivered-prices of $28/barrel, the U.S.-Japan trade imbalance would be readjusted by more than $8 billion in the U.S. favor. However, it is much more likely that Japanese refiners would be unwilling to buy more than 200,000 barrels per day of the heavier, more sour ANS crude, a figure that reportedly is under consideration as a vehicle for discussion in the U.S.-Japan Energy Working Group (set up following Prime Minister Yasuhiro Nakasone's January 1983 visit with President Reagan).

"The U.S.-Japan trade imbalance would be readjusted by more than $8 billion."

At exports of 200,000 barrels per day, the bilateral trade deficit will be reduced by more than $2 billion/year. Rather than prompt the Japanese to be less instead of more forthcoming in other trade negotiations with the United States, it is asserted that exporting ANS crude will meet insistent high-level Japanese requests for a strategic commodity and will thereby grant Washington additional negotiating leverage: once Tokyo has conceded an important trade item, it will be that much harder in good faith to refuse to further open up its market to U.S. goods and services. Presumably proposed Alaskan liquefied natural gas and coal exports will meet with greater import receptivity compared to U.S. competitors.

"Exporting ANS crude will grant Washington, D.C. additional negotiating leverage with Tokyo."

Energy Security Is Enhanced And U.S. Foreign Policy Furthered

Foreign policy gains would accrue to the United States both in the strengthening of the U.S.-Japanese alliance and in meeting stated energy security goals. It is hoped that one additional element of the United States' attempt to convince Japan to increase the number and range of naval patrols will stem from a new requirement to defend multiple tanker routes.

Allied energy security is enhanced because new ANS exploration and production is encouraged, and because Japan will further diversify her import-sources. It has been argued that much of the sudden rise in spot prices in 1979 can be traced to Japanese panic buying; the overwhelming majority of Persian Gulf imports in Japan's total oil consumption then and now dictate the need to offer Japan an alternative source of crude in order to help stave off a repeat of the 1979 crisis.

"As a member of the IEA, Japan will in any case be included in an emergency oil sharing program."

Finally, opponents of exports assert that in an emergency, we would be forced to choose between U.S. and Japanese needs, but as a member of the International Energy Agency (IEA), Japan will in any case be included in an emergency oil sharing program; that agreement calls for imports of crude to be shared in a disruption, not domestic production (in the most likely disruption scenarios). Some proponents of lifting export restrictions have also argued that ANS crude in sufficient quantities would dissuade growing Japanese interest in Soviet energy projects in Sakhalin and in East Siberia.

The case for lifting the 'exports ban' may be summarized as follows:

- economic efficiency will be served, lowering shipping costs and refinery oil prices over time;
- federal budget deficits will be decreased owing to an increase in windfall profits taxes and corporate tax collection;
- more oil will be explored for and (hopefully) produced in Alaska, thereby further reducing the world price;
- the bilateral trade deficit with Japan will be reduced by the sale of a very important commodity, inducing Tokyo to offer real quid pro quo's in return;
- energy security and foreign policy objectives are correspondingly increased, further weakening OPEC's market power in both the shorter and longer terms.

Marshall Hoyler:

THE ECONOMICS AND POLITICS OF OIL EXPORT

Mr. Hoyler is an oil market analyst with the Logistics Management Institute in Washington, D.C. Formerly, he was a defense analyst in the Congressional Budget Office and an oil market analyst with the U.S. Department of Energy.

I'd like to begin by stating my conclusions.

My first conclusion is that exports serve the national interest. They do so for several reasons. They can help reduce federal deficits and thereby produce jobs and help consumers get loans that they would otherwise be unable to obtain.

Exports can enhance our energy security as well as our national security and our ability to defend our country. Eventually, exports will lead to lower consumer energy prices, although that will not happen in the short-run. And, finally, exports offer some benefits in terms of enhanced relations with our Far East allies and trading partners.

My case focuses primarily on the immediate national interest of the United States. If exports help parties overseas, well and good, but the strongest arguments for permitting exports are arguments which focus solely on how they will benefit Americans here at home.

"If exports help parties overseas, well and good, but the strongest arguments are how they will benefit Americans here at home."

My second conclusion is that permitting exports is politically tough. The reason is that although they help us achieve everyone of those goals I've described, they look to many people as though they do the opposite. Those enriched by the export ban seize on this appearance and seek to convince the American people and their representatives in Congress that it would be a bad idea to lift the ban.

One of the reasons it's easy for export opponents to prevail in their lobbying efforts is that the benefits of exports are, for the most part, diffuse. The benefits are not going to be as dramatic as are the costs, because the costs are concentrated. They are suffered by a very small group of people who earn high incomes because of the export ban.

To see this, consider the wages paid to merchant seamen who oppose exports. According to the U.S. Department of Transportation, these wages are three times the size of those paid seamen from other developed countries. The department says that the second mate on a U.S. flag ship makes $60,550 for six months' work, the master makes $119,000 for six months' work, and so on.

If permitting exports leads seamen to lose their jobs, they might well not earn similarly handsome salaries in other lines of work. This fact may explain the generosity of seamen's unions in national politics. According to the Government Research Corporation, "while the Marine Engineers, National Maritime Union and Seafarers have a membership in the 50,000 range, their political contributions have been closer to unions with memberships over one million."

The third conclusion is that a very strong case can be made for permitting exports on grounds of the national interest.

Those are my conclusions. Let me show you how I got there.

The key fact is that permitting exports reduces the cost of carrying crude oil to market, even if every drop of exported oil is carried in a U.S. flag ship. These savings will amount to a gain of at least $20 to $30 billion for the U.S. economy over the life of the Alaskan oil fields.

"These savings will amount to a gain of at least $20 to $30 billion for the U.S. economy."

Here's how permitting exports reduces the cost of taking oil to market. Right now, roughly half of Alaskan production is consumed on the West Coast. Since exports are banned, 850,000 barrels per day must be shipped to the U.S. Gulf Coast. This trip is very costly, about $4.00 to $4.50/barrel. If exports were permitted, this oil could be shipped to Far East refiners for roughly $0.60/barrel. The producer could, therefore, receive about $2.90/barrel more at the wellhead.[1]

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[1] Producers would not receive ($4.00 - $0.60 =) $3.40 more, but rather about $2.90 more, for each barrel shipped to the Far East instead of the U.S. Gulf Coast. This $0.50 difference follows from the fact that a Japanese or Korean refiner would only be willing to pay the quality-adjusted Persian Gulf price plus $1.00 while a Gulf Coast refiner would be willing to pay the quality-adjusted Persian Gulf price plus $1.50, for the same barrel. What refiners in each location would willingly pay depends in turn on transportation costs from the Persian Gulf (where the world price is set) to these markets: it costs $1.50 to ship a barrel of oil from the Persian Gulf to the U.S. Gulf Coast, but only $1.00/barrel for the Persian Gulf-Far East trip.

U.S. flag ships could carry Alaskan crude to the Far East for roughly $0.90/barrel. In this case, therefore, the producer would receive about $2.60 more per barrel. I say Far East markets, not specifically Japanese, and that's an important point. The argument that I am making is for lifting the export ban and letting whoever wants to buy Alaskan oil do so.

Now the savings won't immediately go downstream; it won't immediately show up in prices to consumers that reflect a $3.00 cheaper barrel of oil. The reason is because the price of oil in any market is set by conditions of supply and demand on the world market, and the decision to move a barrel of oil to Japan instead of moving it to the Gulf Coast won't change that supply and demand balance. Therefore, it won't change in the short-run the price that a consumer in the Lower 48 would have to pay.

When Alaskan oil is transported to market at less cost, that savings can translate into other benefits. The first benefit will be a reduction in the federal deficit. Here again it's important to note the contrast between the reality of this benefit and the appearance that opponents of exports will try to surface before Congress and before the American people. Let's look at how exports will reduce the federal deficit.

Some people say that lifting the ban will result in losses of federal revenue because of defaults of federally-guaranteed shipbuilding loans, and because of loss of tax revenues from ship owners and merchant seaman. And they're right. We should expect one-time losses, perhaps as high as $600 million[2] from one source and $221 million from the other, over two or three years.

"We should expect one-time losses as high as $600 million from one source and $221 million from the other."

However, these losses are dwarfed by a minimum of $5 to $8 billion or more in increased federal revenues --from the Windfall Profits Tax, from lease sale revenues on the Outer Continental Shelf (OCS), and from royalties on OCS oil that we would earn over the years by permitting exports.

The bulk of these benefits will come from new Alaskan oil production.[3] If 850,000 barrels per day of exports started tomorrow and ran for a year, however, we should expect about $620 million in increased federal revenues during that year.

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[2] This figure is sharply lower than the $1 billion to $1.7 billion Title XI loan guarantee loss often mentioned by export opponents. It is also considerably more accurate. It comes from a Maritime Administration working estimate of loan guarantee losses produced for the 1981 Cabinet Council Working Group on the subject.

[3] Revenue calculations are complicated and laborious. Accordingly, I have provided some easily understood "back of the envelope" figures here. These figures assume that new Alaskan recoverable reserves are between 8 and 13 billion barrels. These estimates are conservative. Eight billion is the Interior Department's "expected reserves" figures for the OCS alone; 13 billion is the National Petroleum Council's low bound estimate. (NPC's "high side" estimate is 55 billion barrels; their "mean" estimate is 24.1 billion barrels.)

About $0.60 of every dollar added to the North Slope wellhead price is captured by the Windfall Profits Tax and by corporate income tax, for $530 million more oil sector revenues in one year. (The Alaskan state treasury gets another $0.32, leaving roughly $0.08 for the producer.) In addition, Department of Interior planning factors suggest that we should anticipate something over $80 million in higher OCS lease sale bids in FY '84 alone.

If revenue pluses and minuses occurred instantaneously, therefore, federal revenue maritime sector losses would roughly balance federal revenue oil sector gains for one year. After that, permitting exports would produce billions more in net tax revenues, with no further maritime sector losses.

''These losses are dwarfed by a minimum of $5 to $8 billion or more in increased federal revenues.''

However, most observers do not expect instantaneous adjustment. Instead, the adjustment is likely to take two or three years, and federal revenues are likely to show net increases over this period. Here is why adjustments will take a few years.

In some ways, major Alaska producers have paid for shipping oil to the U.S. Gulf Coast whether they do so or not. (For example, some firms have made throughput guarantees for the Panama pipeline and have either bought tankers outright or hired them on life-of-the-vessel charters.) Consequently, they may choose to "go slow" on exports, at least initially. In addition, potential Alaskan exporters and their Far East customers may conduct negotiations at a leisurely pace, with both sides seeking maximum advantage and not wishing to appear too eager. Finally, some Far East buyers may have to alter their refinery configurations before we see bids for all 850,000 barrels per day of Alaskan oil.

''Once we've paid the initial costs, the benefits keep rolling in.''

Once we've paid the initial cost associated with the decision to permit exports, we don't have to pay it anymore. By contrast, the benefits start coming in and keep rolling in. So, from the standpoint of reducing the federal deficit, the clear thing to do is to lift the export ban.

When we reduce the federal deficit, we can reduce the extent to which the federal government goes into the capital markets to borrow money to cover that deficit. That means that money will be available in the capital markets for consumers who want loans to build houses or to buy cars, and money will be available for businesses that need loans to expand their operations.

And so, by permitting exports, we increase prosperity in America, and we also increase the number of jobs.

''By permitting exports, we increase prosperity in America, and we increase the number of jobs.''

The important political point to note here is that the consumer who obtains a loan or the worker who gets a job won't understand the connection to the decision to permit exports. For this reason, he's certainly not going to thank his congressman for having the courage to take the politically costly step of voting for exports. That's an instance of the general principle that the benefits are diffuse.

A second benefit that will flow from the decision to permit exports is that it will permit us to get tankers we need for national defense at a sharply lower cost. Again, there's a contrast here between the reality of the matter and the appearance. The export opponent will say, "We might need those ships in case of war. Where will we be if we haven't protected them by banning exports and thereby keeping them busy carrying Alaskan oil down to the Gulf Coast?"

"It will permit us to get tankers we need for national defense at a sharply lower cost."

When I was a member of a White House working group on this issue, I went to the Defense Department and asked, "If we permit exports, and if there's a worst case and we see 55 to 60 of the ships that are currently in the trade go bankrupt, how is that going to affect the government?"

Their answer was that of the 75 or so ships that are currently involved in carrying Alaskan crude oil to the U.S. Gulf Coast, only 26 are militarily useful. Those 26 ships are ships which are capable of carrying petroleum products, not crude oil.

When the Marines (and I was one) hit the beach, we don't carry the refinery with us. We wait for tankers that have diesel fuel aboard, aviation gases, and so on, the things that we need to fight the war. Only 26 of the tankers that are currently protected in this way are tankers that can do that job for us.

In addition, it turns out that we can buy those tankers for between $140 and $200 million. That's a one-time cost and that cost is included in that $600-$800 million federal deficit figure that I mentioned earlier as far as the cost of permitting exports.

"Let's not continue paying and paying and paying for the same old set of ships."

So we can decide to permit exports and pay for the ships that we need, ships that the ban is currently giving us, within a few months. After that, if we need more ships, then let's buy them. But let's get a dollar's worth of ships for every dollar that we pay. Let's not continue paying and paying and paying for the same old set of ships, which is what the proponents of the export ban would have us do.

Another way that exports can help serve the national interest is that exports can reduce the cost of oil to the consumer. When we permit exports we give the producer about $3/barrel more at the wellhead, so he has a greater incentive to produce. And as that producer produces more oil, he changes the supply-demand picture on the world market and, as you know, when the supply increases for any given level of demand, the price is going to fall.

"A very small reduction of cost (to deliver a barrel of oil) will have an enormous benefit to the American consumer."

When the price falls, it falls not only for the increment of Alaskan oil that is added to the world market (the oil that would not otherwise be produced), but also for every barrel of oil that's consumed in the world market. And that means that a very small reduction in costs will have an enormous benefit to the American consumer.

To compute just how much, take whatever reduction in price you expect and multiply that by 14 million barrels a day times three hundred and sixty-five days [amount saved x 14 million barrels per day x 365 days] and you wind up with a big number.

It's important to note when making this argument about exports reducing consumer prices that it only happens in the long-run. It only happens five to eight years after the decision is made to provide exports. The delay is the result of the long lead-times involved in Arctic energy production.

It's also important to note that in the short-run one group of consumers might see higher prices. Those consumers are consumers on the U.S. West Coast. The reason is that producers have an incentive, because of the export ban, to grant what the people in the business call the "West Coast discount." That is, producers have an incentive to sell crude oil on the West Coast for less than the world price.

If you're a producer in Alaska, you know that it costs you $2.50 more per barrel to ship that barrel of oil from Alaska to the Gulf Coast. Therefore, you want to sell as much oil as you can on the West Coast. Now one way to sell more is to shave your price. And so producers have an incentive to cut their prices below the world market on the West Coast so that they can move more oil into the West Coast and make a greater profit.

Let's look at how exports can enhance our energy security. This is something that the average American and the average congressman finds hard to visualize. It is counter-intuitive. It seems to fly in the face of common sense.

Here we are, buying all this expensive foreign oil from overseas and we are vulnerable to supply disruptions overseas. How, then, can we possibly enhance our energy security by exporting? The answer is that by encouraging additional production on the world market, we increase the amount of oil coming onto the world market from politically secure sources. When we have a war or a revolution in the Middle East, we're still going to be pumping oil out of Alaska. The more oil that comes out of secure places, the less vulnerable we are to supply disruptions overseas.

"The more oil that comes out of secure places, the less vulnerable we are to supply disruptions overseas."

It's true that we're still very vulnerable. No one in America should feel comfortable about the extent to which the United States and its trading partners rely on oil from politically insecure Middle East sources. We're running the risk of an enormous depression if we have political developments overseas which suddenly dry up those sources. It's very important that we take measures to deal with the problem, like building a very large strategic petroleum reserve, much larger than we have right now. But, we won't enhance our energy security by banning exports. In fact, we would enhance our energy security if we do the reverse and permit exports to happen.

"We won't enhance our energy security by banning exports."

The last point that I want to make concerning benefits to the United States is that exports might well enhance our foreign relations with our overseas allies. But it's important to note that when we better our relations with the Japanese, Koreans, Taiwanese, or whoever elects to buy Alaskan oil, we do not do so at our expense.

In Washington, D.C., opponents of export portray this issue as one that's pro-America or pro-Japan. They portray the issue as one where if we ship American oil to the Japanese, it's unpatriotic and an obviously wrong thing to do. It is true that Far East buyers would benefit from buying Alaskan crude, otherwise they wouldn't buy it. But the important point is that they don't benefit at our expense. Instead both parties can gain.

Let me sum up. Permitting exports is in our national interest because it brings benefits in several areas: [a] reduces the federal deficit, [b] increases our national defense, [c] enhances energy security, [d] leads to lower energy prices over time though not in the short-run, [e] confers some benefits in terms of our foreign relations with Far East allies and trading partners.

Dr. Nathaniel Thayer:

THE PACIFIC RIM PERSPECTIVE

Dr. Thayer is director of advanced international studies at Johns Hopkins University. He served in the U.S. foreign service for 10 years and for a time was head of U.S. intelligence in the Far East. A personal friend of Prime Minister Nakasone of Japan, Dr. Thayer participated in the Alaska oil export briefing enroute to the Far East to meet with Asian leaders.

Oil exports and other developments regarding Alaska are going to be of benefit not only to the United States, but are going to be of benefit to the world at large.

Already in Washington, D.C., and in most of the capitals of the world, there's a recognition that world action is no longer going to be focused on Europe. We are now moving into the Pacific. The next century, or at least the next half century, is going to be the age of the Pacific. This is where the action is.

Although it looks on the map like it's very far north, Alaska is going to be central to the action in the Pacific. I would like to discuss how to hasten that process. Market forces will work, but sometimes they take a little bit of time to get started, and you can push them along a little bit.

One of our principal allies is Japan. We have an immense trade deficit with Japan. Everybody talks about the trade deficit, but few people recognize that there's more trade going on with Japan than has ever gone on between any two nations, ever. That trade is growing every year.

"The next century is going to be the age of the Pacific."

I don't read the Alaskan newspapers regularly, but every other newspaper in the country is filled with talk that we are being flooded with Japanese automobiles. Good! They're cheap, and they run well.

We are also, in our own little way, flooding Japan. Most of their food comes from the United States. I got into a major argument with a congressman from Louisiana who wanted to do some restricting of exports, and I said, "Congressman, do you know that most of the rice that you grow in Louisiana goes right to Japan?"

"There is more trade going on with Japan than has ever gone on between any two nations, ever."

I was talking with people from Indiana. All of their wheat goes to Japan.

We're having an argument now about beef. In time, we are going to be the principal suppliers of beef to Japan. Beef on the Japanese market today costs about $30 a pound. We can do a little better than that.

Whatever the product is, it's starting to come out of the Lower 48, and it's pouring into Japan.

What I would like to preach is that it can be oil today, but there are lots and lots of other resources here in Alaska, and those, too, should be going to Japan. But it is not only Alaska's natural resources at issue. The Japanese aluminum industry is beginning to close down. Why? Because the costs in Japan for electrical power are too high.

"In time, we are going to be the principal suppliers of beef to Japan."

As presently planned, this aluminum industry is going to be moved into Indonesia and Australia. That's a far cry from their principal market, which is the United States. They should be moving it up into Alaska because you are on the principal trade routes, and you've got ample cheap power.

It isn't only oil. It is also hydroelectric power. And aluminum is not the only deal. There should be a lot of others. This should be one of the principal manufacturing spots for the U.S. market with Japanese capital and capital from other parts of Asia as well.

My point is then that we are in the age of the Pacific; Japan is one of our principal allies and one of our principal markets; and we are one of Japan's principal markets; therefore, we should be doing all in our power to open up and develop these markets.

"We trade more now with Korea than we do with France. That's a highly classified secret."

The second point I wish to make is that we talk a lot about Japan nowadays, but we're overlooking some of the other principal countries of Asia. One of them is South Korea. The image that most people have of South Korea is of a place where we fought a war once. It's still a little bit of a burden. We need to change that image.

We trade more now with Korea than we do with France, and yet think where France is in our image of things. In terms of actual dollars and cents, Korea is of more importance to us today than France. That's a highly classified secret, nobody knows it.

Korea is going great guns. Its growth rates sometimes fall as low as 7 percent but are usually in the double-digits. It has taken over the shipbuilding of the world. It's going to do more in all areas of economic development.

What is essential to Korea? Oil and gas. It doesn't have any. Where does all the Korean oil come from? Ninety percent of it comes all the way from Saudi Arabia. Why in the world isn't it coming out of Alaska? It should be.

I was talking last night on the plane with a Korean diplomat, and I asked him, "Why haven't you gone after Alaskan oil?" He sat there for a moment and said, "I can't answer you. I never thought of it. We should."

They say that they have a pretty good deal with the Saudis. The Saudis have promised to supply them with oil, and they have seen that as enough. They should, however, be working with a multitude of sources for their oil. Korea's a wide open market. They need it, and they need many sources for their oil. Also they need gas. These are markets that are just opening up, and they are limitless markets.

Taiwan is another one of the "little dragon" economies, or one of the "little Japans" that are coming down, with phenomenal growth rates. It, too, gets its oil out of the Middle East. Why isn't it getting it out of Alaska? Nobody's put any heat on them, that's why. It should be coming from Alaska.

The Philippines is a little bit behind the others in development but coming on fast. Where does their oil come from? Indonesia. The Middle East.

All of these are lucrative markets for Alaskan oil, Alaskan resources. They should be exploited.

''If we are willing to put American lives on the line for these nations; then why aren't we willing to sell them oil?''

There's another argument that must be made by Alaskans to people within the United States. We have security treaties with all of these countries that I have named. We have undertaken to defend these nations. This may be a magnanimous gesture from our hearts, but there's something else there, too. We have strategic reasons for these commitments.

If these nations are strategically important enough to us that we will send people over there to defend them; if we are willing to put American lives on the line for these nations; then why aren't we willing to sell them oil?

Dr. Charles Ebinger:

THE GLOBAL, STRATEGIC PERSPECTIVE

Dr. Ebinger, whose background paper is printed in the opening pages of this document, is with the Center for Strategic and International Studies in Washington, D.C. He is also a professor at Georgetown University and formerly was a foreign affairs officer for the Federal Energy Administration.

We are dealing with a world oil market, and I'd like to highlight some of the concerns my associates and I at the Georgetown Center have about what may be happening in that market.

There is a great deal of talk in the United States, and indeed the world at large, that the price of oil is coming down. There are pundits every day in the editorial pages of the leading newspapers of the United States talking about $15 or $20 oil being around the corner. We strongly dissent with that view and fear quite the opposite may occur if we look 10 to 15 years hence.

We have observed rising internal consumption in the OPEC countries themselves, and we have noted a number of projections that energy demands of Latin America, Asia, and Africa may also rise quite dramatically.

We believe that a large part of the so-called oil glut in the world today may rapidly evaporate in the years ahead. And as Dr. Thayer has pointed out very well, a large portion of that increase in demand will indeed be in the Far East region, thus necessitating a great demand for Alaskan oil.

"We strongly dissent with the view that oil prices may drop to $15 or $20 per barrel and fear quite the opposite."

We also are deeply worried and troubled by the energy situation we see confronting the Soviet Union, not because we have any love for the Soviet Union. The Soviet Union is today a sizable net exporter of oil to the world market, but may lose that export capability. If this happens, the Soviet Union may actually become a claimant for world oil itself.

We are also less sanguine than other observers about growing oil demand in the Peoples Republic of China. We believe that demand will rise commensurate with the expansion of Chinese petroleum production, at least over the next decade. As a result we question those observers who have seen the Peoples Republic of China emerging as a major oil trader in the Pacific. If this does not occur, the role of Alaskan oil, particularly in the Japanese and perhaps in the South Korean markets, will be even more important.

"The Saudis, once the market tightens, may keep production curtailed to force the price of oil back up."

We see the very real prospect that Saudi Arabia and perhaps some of the other leading members of OPEC will choose not, once the market begins to tighten, to resume their previous oil production levels that they were able to sell before the emergence of the oil glut. Instead they may keep production somewhat curtailed to force the price of oil back up on the international market.

We note that despite the record level of oil and gas drilling that occurred in 1981 and on into the early months of 1982, that worldwide we are drawing down oil in relation to how much we are finding by something like 3.5 billion barrels per year.

We're worried about what may happen to the resurgence in oil demand following economic recovery in Europe, Japan, and the United States, as well as the world at large. And finally, we find more than enough concerns about the very real prospects for future political and economic instability in a number of oil-producing countries, which thereby argues more urgently than any other reason, perhaps, for the necessity of developing Alaskan oil and oil anywhere else in the world where it can be found.

"To lift the ban on Alaska oil exports will encourage producers to find and produce more oil in the state."

It is against this backdrop that the necessity to lift the ban on Alaskan oil exports can be best understood. It is precisely that action which will encourage producers to find and produce more oil in the state. To those who are less sanguine about the prospects of Alaska, I merely wish to note that last October the oil companies were willing to pay $2.1 billion for further leases in the Beaufort Sea.

I would now like to try to debunk some of the myths that the opposition on this issue have put forth and to try to place in perhaps a different context some of the problems that this very difficult, political issue raises for politicians in Washington.

"Last October the oil companies were willing to pay $2.1 billion for further leases in the Beaufort Sea."

The centerpiece of this debate rests on what your perceptions are about the continued existence of an oil surplus on the U.S. West Coast. It is our belief that that surplus is going to continue for a significant period of time. Indeed, it is our view that that surplus may very likely increase, not as much from the addition of Alaskan oil development as from the addition of some of the new finds off the California coast itself. The so-called oil surplus of 800,000 barrels per day may rise to somewhere closer to 1-1.5 million barrels per day in the foreseeable future. This leads us to believe that indeed Alaska must seek other export markets and quite logically, those export markets lie in the Far East.

One of the major opponents of lifting the ban on oil exports has been a consortium of interests known as the Northern Tier Pipeline. This group of interests perceived that the refineries along the northern tier of the Lower 48 states (Washington, Idaho, Montana, North Dakota, and Minnesota) have suffered unusually severe hardships after the first oil crisis in 1973. The reason for this was that the Canadian government curtailed exports to the United States and these refineries had difficulty acquiring feedstock.

"Northern Tier Pipeline proponents have dropped all opposition to the export of Alaskan oil."

As a result, a consortium of interests emerged which proposed building a West-to-East crude oil pipeline centering around the port of Port Angeles in Washington State, and moving slightly over 900,000 barrels per day of crude oil to inland markets. Quite clearly the impact of Prudhoe Bay production on West Coast markets made this proposal, in the view of the proponents, very attractive because it assured a steady crude oil surplus.

But in recent weeks there were two developments. First, the Northern Tier pipeline consortium announced, in my view temporarily, an end to their desire to build this pipeline. It is my firm belief, talking to some of the Northern Tier proponents recently, that they will not drop this pipeline and it will re-emerge. But the relevant point is that they have dropped all opposition in recent days and weeks to the export of Alaskan oil.

The reason for the shift is a perception among at least some proponents of the Northern Tier pipeline that the surplus of West Coast oil may well be big enough not only to allow the construction of the Northern Tier pipeline, but also to allow the export of oil from Alaska. That's a controversial statement and others may have different views. But the significance of the West Coast surplus is our critical problem. If you believe, as have some of the opponents of the Northern Tier pipeline, that the surplus will indeed disappear, then quite clearly the arguments for or against export may take a very different tone in the United States Congress.

The other thing that has bothered me about the opponents of the export of Alaskan oil has been that they have resurrected national security arguments favoring the continued ban on exports. They argue that the U.S. military would not be able to be supplied in a crisis. The U.S. Department of Defense, in recent conversations I have had, has noted that they do not fear that foreign flag tankers, particularly flags of convenience from Liberia, Panama, et cetera, would not be available in a major conflict situation. They note that even during World War II, Korea, and Vietnam, an overwhelming proportion of the United States military needs were supplied by foreign flag tankers owned by American companies, rather than by domestic ships that fall under the Maritime Administration.

I find it a very dubious argument that the transit of oil through the Panama Canal or by the Panamanian pipeline somehow enhances the national security. This is a volatile region of Central America at best, and we may be moving toward a growing confrontation in the area.

"I find it a very dubious argument that transit of oil through the Panama Canal somehow enhances our national security."

It is a curious argument that somehow oil that moves through Panama in current global conditions is indeed more secure than oil that moves to a staunch ally such as Japan.

The United States is proposing to spend upwards of $30 billion a year to build a rapid deployment force and a carrier task force in the Indian Ocean and the Persian Gulf to defend the supply of oil from that volatile region of the world. The purpose is not only to protect oil deliveries to our own markets, but to those of our vital allies in Europe and Japan. At the same time, we seem unwilling to lift the ban on the exports of oil from Alaska to Japan.

In passing, you might want to know that one of the strongest lobbies in Japan actively supporting the export of Alaskan oil is the Japanese defense establishment. Currently the U.S. government is urging the government of Japan to take a more active military posture, possibly defending the sea lanes around Japan out to a distance of 1,000 miles. The Japanese Defense Ministry apparently believes, from conversations I have had, that the export of Alaskan oil will give an added *modus vivendi* for supporting a further expansion of the Japanese military presence against domestic critics in Japan.

One of the arguments I would caution you to be very careful of is that if we lift the ban on oil exports to Japan, this will draw Japan away from further energy ties with the Soviet Union. You may have heard reference to a large natural gas project that Japan has undertaken on the Soviet island of Sakhalin in the northern Pacific as evidence of something we don't wish to see occur because we do not want a strong ally such as Japan wooed into the Soviet orbit. When you actually look at the size of that project and the terms and volumes of energy involved, you will find that it is a fairly small drop in the bucket in the total Japanese energy picture. It has been a very lucrative deal for the Japanese. It does not in my view represent a threat to Japanese security.

"Our treaty obligations require us, in the advent of a major petroleum crisis, to share oil with our European and Japanese allies."

Finally, it is indeed in our national security interest to have a strong relationship with Japan in addition to the obvious benefits that accrue from lowering the trade deficit and reducing some of the rhetoric that has all too often plagued our bilateral relations.

Our treaty obligations require us, in the advent of a major petroleum crisis, to share oil with our European and Japanese allies. If one country has a 7 percent shortfall or more, the other member states are obligated to share oil. Were that agreement triggered today, it is currently estimated we would be exporting slightly over 500,000 barrels per day to Japan. If we're willing to do that in a catastrophic situation, why aren't we willing to do it in better economic times when there are benefits that accrue to all parties?

"There's a danger of being too euphoric about how well Alaska oil may be received in Japan."

There's a danger of being too euphoric about how well Alaska oil may be received in Japan. Even if the ban were lifted, the Japanese may want a far lower volume than people have supposed both on the pro and the negative sides of exports. Japanese refiners, for example, have said that perhaps an additional 100,000 to 200,000 barrels of oil per day would be welcome in the Japanese market, and more sizable volumes would not be so welcome.

"Initially a small volume of oil would be traded."

I raise this point because it devastates the arguments of those who do not wish to lift the ban when they raise the prospect of all Alaskan oil going to Japan and the negative effects they argue that this will accrue to the U.S. economy.

In reality it will be far more likely that a small volume of oil would initially be traded. This I argue is probably in everyone's interest, because it allows us to see how the transactions work. It jeopardizes no one's security, and it has a lot of positive benefits that I and the other panelists have outlined.

Congressional Viewpoints

The Honorable Frank Murkowski:[1]

"PROTECTIONIST LEGISLATION IS NOT THE ANSWER"

The Alaskan oil exports issue is a very sensitive question, with many sides to it. Much of the opposition in the Lower 48 states stems from painful memories associated with the oil crises of 1974 and 1979.

The possiblity of Alaskan oil exports was most recently raised by President Reagan during his talks with Prime Minister Nakasone last January. Their discussions led to the formation of the U.S.-Japanese Energy Working Group, composed of assistant secretaries and deputy assistant secretaries from the various agencies in the administration and their counterparts from Japan.

The Working Group will focus on the bilateral energy relations of the two countries, with special emphasis on oil, gas, and coal. The participants are concerned with extremely timely issues and expect to produce conclusions by mid-summer. Let me stress that these talks are being held at a level high enough to ensure that the findings of the group will be considered seriously in the formation of administration policy, and I would expect them to be implemented in an expedient manner.

"The establishment of the Working Group is producing results in Washington, D.C."

The establishment of the Working Group, as well as rumors currently afloat of an official administration draft proposal to allow oil exports, are producing results in Washington, D.C., today.

In Congress, legislation has been introduced which would propose to extend indefinitely restrictions on Alaskan oil exports. Provisions contained in the Export Administration Act, the Mineral Lands Leasing Act, the Energy Policy and Conservation Act, the OCS Lands Act, and the Naval Petroleum Reserve Production Act, effectively preclude producers from exporting Alaskan oil.

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[1] Senator Frank Murkowski, unable to attend the briefing, was represented by Mr. Kevin Coyner who presented the following statement for the senator.

The Export Administration Act, due to expire on September 30 of 1983, is the subject of H.R. 1197, introduced by Congressmen McKinney and Wolpe on February 2, 1983. A similar measure is being circulated in draft form in the Senate by Senators Cranston and Hatfield. Currently, the number of co-sponsors for H.R. 1197 is 194. It is scheduled for committee action and could be reported to the House floor some time in May.

Under the Export Administration Act, the president must make a determination that exports would not reduce the total domestic supply of oil and that such exports would be in the national interest. Following such determination, the findings face a 60-day referral to Congress and the necessity for passage of a resolution of approval by both Houses. In other words, to lift the oil export ban, it would take positive legislative action by the U.S. Congress to allow North Slope producers and the state to export any portion of their oil.

The administration, for its part, has formally announced its support for the elimination of the restrictions of Alaska oil exports in the Export Administration Act, but they have yet to take the next step--that of officially promoting actual exports. The absence of a formal administration proposal for regulating exports has given opponents an opportunity to paint a dire picture of catastrophic results that could only occur under the most bizarre circumstances.

I have made clear to the administration the importance of reaching a position as soon as practicable, and am meeting with top administration officials to urge them to do so.

Thus, there is no shortage of activity on the oil export issue in Washington, D.C.

As for the Japanese, during my recent trip to Japan as leader of the Alaska Forest Products Trade Mission, the Japanese government officials I spoke to did not hesitate to express their general interest in Alaskan oil. At present, they could probably absorb 100,000 to 200,000 barrels per day, but over time, this could increase to 600,000 barrels per day.

Their interest in short-term gas and coal imports is not a high priority at this time. They have, however, indicated that in a few years we may see a change in their energy demands, and a market for Alaskan gas and coal exports may open up in Japan.

"The United States will negotiate for reverse investment by Japan in energy-producing facilities in the U.S."

In its turn, the United States desires, and will negotiate for, reverse investment by Japan in energy-producing facilities in the United States. The intent is to provide the means for U.S. energy producers to achieve a competitive, world-class export position.

I believe this to be a fair and accurate account of the status of oil exports at this time. It is now imperative that the state take timely steps to signal its attitude to the Congress and the administration. It is incumbent on the state to examine all sides of this very complex issue.

"It is now imperative that Alaska take timely steps to signal its attitude to the Congress and the administration."

It is clear that allowing Alaskan producers to export some of their oil will accrue to the benefit of the state and provide Alaska with a market for its excess royalty oil. Based on a projected export level of 200,000 barrels per day, state revenues could increase by anywhere from $141 million to $170 million per year.

It is not clear, at least to some, that the national benefits would far outweigh any potential disadvantages. The Heritage Foundation, a conservative think tank, recently published a report which enthusiastically promoted the lifting of restrictions on exports. The report predicted a gain of $1.5 billion per year from such exports. According to other estimates, a reduction in our deficit trade balance with Japan of up to $2 billion per year could be generated by a 200,000 barrel-per-day export, and total federal revenues, derived from the Windfall Profits Tax, and royalty and bonus sale payments onshore and offshore, could be increased by at least $5 to $8 billion.

"The Interior Department calculates that lifting the ban would result in an increase in the value of new oil discoveries of $20 to $50 billion."

The present oil export ban requires more real economic resources, namely labor and capital, to be used to transport and refine Alaskan oil than would be required were the ban not in effect. It has been roughly estimated that the total discounted present value of cost savings should total between $3.6 to $5.4 billion. In addition, the U.S. Department of Interior calculates that lifting the ban would result in an increase in the value of new oil discoveries of $20 to $50 billion over the productive life of the leases.

The advantages of such exports are immediately apparent. The projected revenues could be used to reduce our national debt. Oil and gas production would be stimulated in Alaska, and probably in the rest of the United States as well, and ultimately the amount of oil available worldwide would be increased.

Because the West Coast has not been able to absorb the oil produced from the North Slope, and the Northern Tier Pipeline Company has announced it will not go ahead with its project, the need for a viable alternative market for Alaska oil is growing.

"Protectionist legislation would hardly improve our relations with a strong ally."

Oil exports would solidify our good relations with Japan and the Pacific Rim countries. The energy security of the Pacific Rim countries would be enhanced by reducing heavy pressure on Japan to buy oil and gas from the U.S.S.R and, more importantly, by reducing Japan's dependence on OPEC, which supplies about 87 percent of its imports.

The other vital benefit to consider would be the effect of exports of domestic oil on our balance of trade deficit with Japan. This deficit has caused consternation among members of Congress and led to the introduction of several protectionist measures. Protectionist legislation would hardly improve our relations with a strong ally, whereas acting as a competitive supplier of a product Japan desperately needs would only benefit everyone concerned.

On the other hand, there are legitimate concerns related to Alaska oil exports which have to be addressed. The most significant to my mind is the matter of equity for oil companies that complied with existing law. ARCO, EXXON, SOHIO and others bought very expensive tankers to transport their oil from Valdez, and signed contracts to carry that oil through the new Panama Pipeline to the Gulf Coast and eastern ports. These companies invested heavily in Alaska oil production under the impression that these costs would be more than offset by profits.

The other major obstacle to be dealt with are the objections of the maritime industry. I believe that the maintenance of U.S. flag vessels is vital not only to our trade and commercial interests, but also to defense. For these reasons, I will support the export of Alaska oil only on the condition that it is carried in Jones Act tankers. At any rate, according to the administration estimates, the export of 200,000 barrels per day of Alaskan oil would displace only two tankers and 120 employees over and above that which would be lost if the ban remains in effect.

Oil is like water. It finds its own level. We live in a single-market-price world oil economy today. Oil is priced competitively wherever it is shipped. We ship half of our oil to the Gulf and East Coasts of the U.S., 4,400 miles farther than if it were shipped directly to Japan. That oil is the most expensive oil to produce in the world. It must be handled twice; first from Valdez to Panama where it is off-loaded; then it is shipped through the pipeline and reloaded on the other side of the isthmus on smaller tankers.

If that oil, which is shipped in U.S. bottoms, can effectively compete with OPEC and Mexican prices on the Gulf Coast after this costly and burdensome process, surely it can easily compete in Japan.

"U.S. Ambassador to Japan, Mike Mansfield, reiterated his long-standing support for exports."

Without an administration proposal, which I believe is forthcoming, there can be no real consideration of the relative advantages and disadvantages of exporting Alaska oil. In view of this, I met with Norman Bailey, senior director of the National Security Council, with Secretary Don Hodel of the Department of Energy, with Deputy Undersecretary of State Allen Wallis, and with Dr. Fred Ikle of the Defense Department.

I am scheduled to meet with Secretary of State George Schultz; with Elizabeth Dole, secretary of transportation; and with Ed Meese at the White House, all in order to urge adoption of an administration position on oil exports so that the issue may be considered on its merits. I also recently met with the U.S. Ambassador to Japan, Mike Mansfield, who reiterated to me his long-standing support for exports. If it is in our nation's best interest, let's get behind it now.

As this issue moves along in Washington, I believe that the State of Alaska must evaluate the issue and give consideration to promulgating a state administration position. The state's position will be an important factor during congressional debates.

The Honorable Ted Stevens:

"ALTERNATIVE MARKETS WILL STABLILIZE PRICES"

I favor the export of Alaskan oil, because I think it will serve to stabilize the price of oil which is important to the future exploration and development of our potential oil resources here in Alaska. Export must not, however, be at the expense of safety in Prince William Sound.

Further oil exploration and development in Alaska is dependent upon the stabilization of our oil prices. The petroleum industry is not going to make the investments needed for further exploration and development unless they feel certain that they will receive a reasonable return on that investment. Alternative markets are essential for that purpose.

The export of Alaskan oil will not affect the amount of oil available to the United States. The oil which would go to Japan is oil currently being sent to the Gulf Coast via Panama as we all know. There is plenty of oil available to the Gulf Coast from Mexico and other sources at no higher cost to our consumers. The market price for oil is the same, no matter where it comes from.

"The export of Alaskan oil will not affect the amount of oil available to the U.S."

The cost of transportation affects the wellhead price, not the market price--the wellhead price being the market price at its destination minus the cost of transportation. There are many people in the Lower 48 who do not understand this. They must be educated as to the realities of world oil pricing before we can expect them to understand the logic and wisdom of exporting Alaska oil, particularly to Japan.

While I support the export of oil

to Japan, I do not do so without placing some conditions on that export. Of primary importance to Alaska is the requirement that oil be exported in American ships owned and crewed by Americans. We should not allow any old rustbucket into the Prince William Sound. We cannot afford to have an oil spill in its waters, we cannot afford to lose the service of the tankers that currently carry the oil from Alaska to the Gulf Coast, because we're poised on the edge of exploration that could mean a considerable increase in the volume of oil that we have available.

The export of Alaskan crude does not have to be at the expense of Alaska's waters, of American jobs, or of the American consumer. Part of winning the approval for export will be educating the American public on the advantages to them of the export of Alaska oil.

Senator Murkowski and I have each had personal conversations with the prime minister of Japan, and I've talked with the task force that was appointed by President Reagan and by the prime minister to work on questions of total trade relations between the United States and Japan. It's clear to me that with the opposition in Congress now to changing this law, that that task force report is essential to the proper consideration of our point of view in the Congress.

"The rest of the country is worried about automobiles, steel, pharmaceuticals, textiles, and other exports from Japan to the U.S."

The current trade imbalance between Japan and the United States is severe. The rest of the country is worried about automobiles, steel, pharmaceuticals, textiles, and other exports from Japan to the United States. The rest of the country is not going to allow Japan to alter that trade imbalance by the simple act of buying Alaskan oil.

It's true that it would tremendously change the current balance of payments, but it would not have an impact on the trade relationships that have caused the current feelings regarding Japanese trade among the major industries of the South 48.

"We have to keep working on this issue as something of primary importance to the rest of the country, and it is."

We have to work with the task force. We have to keep working on this issue as something of primary importance to the rest of the country, and it is. The question of whether the Navarin Basin is explored depends upon investment. The question of going forward in the Beaufort Sea depends upon investment. The question of developing the Arctic Wildlife Refuge potential depends upon investment. Even completing the total development of Prudhoe Bay depends upon investment.

If our oil prices by definition must be governed by destination prices in the United States rather than by world market policies, then the investor is going to be reluctant to invest here, because we will be the first oil that's shut off because we are the farthest oil away in terms of the American market. We must have that alternative market in order to stabilize our prices for the future. That's the basic reason that I support the export of Alaska oil.

The State Of Alaska's Policy

The Honorable Esther Wunnicke, Commissioner of Natural Resources:

AN "OPENING DOOR" TO THE PACIFIC RIM

Governor Sheffield has been very interested in the proceedings here and would have been here himself except that he had a prior commitment in Barrow.

I would like to thank Representative Bettisworth for bringing us all together for what has been a very instructive session. Throughout, I have been hearing the call for a state position with respect to the export of Alaska oil, and I hope that these remarks from the governor will answer that question.

The state is very concerned about the current limitations that apply to the export of North Slope oil. The governor has considered this issue very carefully since taking office and, after much thought, has decided to join the national administration in supporting efforts to remove the current impediments to oil exports.

John Katz, special counsel to the governor in Washington, D.C., will be working with Senator Stevens and other members of the state's congressional delegation to try to achieve that result in Congress.

"The governor believes that our foreign trade opportunities with the nations of the Pacific Rim should be as unrestricted as possible."

The governor made his decision for two primary reasons. First, he believes that our foreign trade opportunities with the nations of the Pacific Rim should be as unrestricted as possible as a matter of principle. We support increasing the available options for disposition of oil produced in Alaska.

And second, the state could reap some significant revenue benefits from the sale of North Slope oil to

Japan, as would the producers and the federal government.

To the extent that wellhead prices increase, the producers will have a greater incentive to explore and develop more of the marginal fields in Arctic Alaska.

"The producers will have a greater incentive to explore and develop more of the marginal fields in Arctic Alaska."

At the present time, about 1.6 million barrels of North Slope oil are delivered to Valdez every day. Of that amount, about 800,000 barrels per day are sold and refined in Alaska or on the West Coast and 800,000 barrels per day are sold and refined in the Gulf of Mexico or the East Coast.

Of particular interest to the state is the disposition of our royalty oil, which is one-eighth of that production or about 200,000 barrels per day. Eighty-six thousand barrels per day of that oil is presently committed under long-term contracts with North Pole Refinery Company, Golden Valley Electric Company, and Tesoro Petroleum Company. Two additional agreements with Tesoro and Chevron, which would commit another 44,000 barrels per day of North Slope oil for in-state use, are currently pending before the legislature.

Since these commitments are all contractually expressed as a fixed percentage, as opposed to a fixed volume, the actual volumes delivered under the contracts will decline as Prudhoe Bay production declines.

The state has not yet committed any of its Kuparuk royalty production, which is presently about 10,000 barrels per day. If Kuparuk production increases as planned, over 30,000 barrels per day of royalty oil would be available from that field. We also expect that new fields on state lands on the North Slope will add another 20,000 to 50,000 barrels per day of royalty oil during the next 10 years.

The state can also, under the contracts that are now proposed, "take back" (subject to third party contracts, of course) some 50,000 barrels per day of residual oil for export or for further in-state refining.

If oil exports were allowed, the state could benefit through either the sales of some of its remaining royalty share at a higher price than it now receives, or through an increase in all royalty and severance tax collections resulting from sales at a higher price by the producers.

Estimating the exact value of these possible benefits is difficult because of the variety of factors which will influence the netback, or wellhead, price of oil sold to Japan. Some of the questions are, "Will the oil move in operationally cheaper foreign tankers, or in Jones Act American bottoms? Will the Japanese pay the price of other equivalent crudes, or attempt to share in the benefits of exports by bargaining for much lower prices?"

For a variety of reasons, the state would like to see producers sales to Japan, as well as consideration of royalty sales, if the ban were lifted. The producers have seven times as much oil within their control as the state and possess a great deal of expertise in commercial trading.

Because of the much greater volumes of oil that could be sold to Japan by the producers, the state could stand to gain far more from the severance tax and royalty valuation benefits of producer sales than from the sale of its own royalty oil. Additionally, the national treasury would only benefit from producers sales, since the state pays no federal taxes on its royalty sales.

Although the state could realize a substantial increase in revenues from royalty sales to Japan, we feel that the processing and use of that oil in Alaska should have first priority. Indeed, under current state law, oil cannot be sold outside the state unless it is surplus to in-state needs. The criteria established by the state statutes provide that in-state processing and supply are the highest and best use for royalty oil, all other things being equal.

''We feel that the processing and use of that oil in Alaska should have first priority.''

In the contracts which are presently pending before the legislature, we will help a long-standing, existing Alaska refinery stay in operation despite a shortage of supply to its worldwide system, and we will help another long-standing Alaska refinery construct a significant new expansion. Both of these agreements mean jobs for the state's citizens, a boost to the local and regional economies, and an improvement to the local and state tax base. We do support export, but only of the barrels remaining after we have provided for in-state needs.

Current law allows for the export of residual oil and petroleum products. And we understand that some Alaska refiners have had discussions with the Japanese, but there have been no transactions to date. We cannot at this time estimate the opportunities for the sales of residual oil to Japan, but they certainly represent an opportunity that needs to be looked at very closely.

''Oil exports might provide an 'opening door' that would promote further Japanese interest in other energy resources, such as coal.''

Oil exports might also provide an "opening door" that would promote further Japanese interest in other energy resources found in Alaska that are not subject to export restrictions, such as coal. We would very much like to do anything we can to aid the efforts of our coal lessees to market their products in the Pacific Rim.

I won't go into the political impediments to getting the export ban lifted, but the state will need to approach its effort to influence congressional consideration of this issue very delicately. It is worth remembering that the state's last effort in this area did not accomplish its goal, and instead the result was that restrictions were tightened by the Congress.

But in conclusion, let me repeat that the governor would very much like to see export restrictions of Alaska oil lifted by the Congress. He's asked his staff in Washington, D.C., supported by the rest of us in the administration, to work toward that end. We know that we have a tough job ahead of us. And in light of our stance on oil exports, we still see our pending royalty oil agreements with Tesoro and Chevron as being very tangibly in the best interest of Alaska.

A ROUNDTABLE DISCUSSION

After each speaker made his presentation at the April 23 briefing, a panel of legislators[1] asked questions for clarification and expansion of the many issues involved. At the end of the briefing, a roundtable discussion was held at which legislators, presenters, and members of the public were invited to ask additional questions. For the purpose of organizing this material, selected questions and answers have been included herein.

Question:

Could Alaska oil exports help the oil-producing countries that are currently in serious financial difficulty?

Dr. Ebinger:

Yes. By allowing Alaskan oil to go to Japan we may well free up the market for Venezuelan and Mexican crude oil. Mexico has an $82 billion debt, largely owed to American or international banks. While we can argue whether it was good or bad that that debt occurred, the reality is that the nine largest U.S. banks have 40 percent of their total equity invested in a country that is on a very shaky foundation.

Venezuela also has very serious debt problems and Venezuela, while a member of OPEC, has historically stood behind us. She did not embargo us; indeed, she raised production on a number of occasions to help the United States. It is clearly in the broader interest of the United States, to allow these countries, not only from a security standpoint because the sea routes are close to the United States, but also from the economic situation, to export as much oil to the United States as our marketeers and refiners are able to take.

"Mexico has an $82 billion debt, largely owed to American or international banks."

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[1] In addition to Representative Bob Bettisworth, who chaired the session, the following legislators were in attendance: Senators Joe Josephson and Paul Fischer; Representatives John Cowdery, Mike Davis, Terry Martin, Mike Symanski, Mae Tischer, and Rick Uehling.

Question:

People talk about jobs lost through lifting the ban. Won't export actually create more jobs?

Mr. Hoyler:

Absolutely. Any careful economic analysis would indicate that you would see far more jobs created as a result of permitting exports than the relatively small number of jobs that will be lost. What's difficult is to predict the exact number and the sectors where they're going to appear. It's clear that a big winner would have to be Alaska, as the incentive to produce additional oil will be greater in Alaskan fields and in Alaskan offshore. What's not clear are the numbers of jobs in total created and the breakdown of jobs created in Alaska versus jobs created elsewhere.

"There will be far more jobs created as a result of permitting exports than the relatively small number of jobs that will be lost."

Question:

Is there a danger of another OPEC-type embargo?

Dr. Ebinger:

The OPEC cartel situation has fundamentally changed. Having produced 31 million barrels per day in 1979 at its height, OPEC today produces somewhere between 14 to 15 million barrels per day. It's very difficult to make any kind of projection that even with renewed economic recovery throughout the world, that that situation will turn around within the next 10 to 15 years.

"What we are seeing is a situation where a free market will operate, if we let it operate."

There is no serious possibility of another politically motivated cartel, but that does not mean that the market, for the reasons I highlighted in my remarks, may not tighten and lead to an upward movement in prices in the future. What we're seeing here is a situation where a free market will operate if we let it operate. Indeed, a lot of these countries are willing to sell their resources at prices that are fully competitive in all world markets.

Question:

Will the resurgence in the national economy affect the West Coast surplus?

Dr. Ebinger:

Most of the analysis that we have seen argues that the drop of the demand in the United States has probably been about 60 percent structural (meaning conservation, with people buying fuel efficient cars, et cetera) and 40 percent the result of recession. So nationwide, we would very likely see oil demand come back up in the neighborhood of 2 to 3 million barrels per day fairly quickly with sizable economic recovery. On the West Coast, you'd probably see a portion of the surplus eroded, but the problem would continue for some time to come, particularly with the addition of the new California oil fields.

"The drop of the demand in the United States has probably been about 60 percent structural and 40 percent the result of recession."

Question:

What is the dollar difference between using foreign tankers and U.S. flag tankers?

Mr. Hoyler:

About $0.60 a barrel, foreign flag from Valdez to Yokohoma; $0.90 a barrel, U.S. flag. The $0.60 figure means roughly a $3.00 increase in netback. Therefore, a $0.90 figure would mean a $2.70 increase. So adjust downward by 10 percent the benefits I mentioned earlier if we put it all on U.S.-flag bottoms.

Question:

How much does it cost to protect the Jones Act fleet?

Dr. Ebinger:

The American taxpayer pays roughly $1.5 billion a year to subsidize the maritime industry. As Mr. Hoyler noted, it's estimated that we could buy those ships outright for the nation at a one-time cost of roughly $200 million. We ought to understand that there may be benefits in terms of protecting jobs, but there are also very real costs involved in this situation.

"The American taxpayer pays roughly $1.5 billion a year to subsidize the maritime industry."

Question:

Are Jones Act tankers environmentally safer than foreign vessels?

Dr. Ebinger:

There seems to be implied, in some of the discussion, that we don't want foreign flag tankers coming into the Alaskan coast, because sometimes those tankers are not up to the same standards of new American ships, and therefore would risk environmental damage if there were an accident.

In reality, some of the Jones Act tankers, some of which are 30- to 40-years old, would never compete in a free market situation. We ought to raise serious concerns whether all the tankers in the Jones Act fleet are fit for the high seas or certainly Alaskan waters. I think we have a somewhat disjointed view of that situation.

Mr. Hoyler:

Let me make a parenthetical observation about "rust-buckets." It is true that there are many old ships in the U.S. flag merchant fleet. However, data I have looked at suggest that most of these ships are not operating in Alaskan waters. Ships operating in Alaskan waters are large, relatively recently constructed boats. The older ships operate in the Panama to Gulf Coast trades. This is a small point, but it's important to know that the "rust-buckets" are going into the Gulf Coast waters, not Alaskan waters, so there is no argument on environmental safety grounds one way or the other.

"The 'rust buckets' are going into the Gulf Coast waters, not Alaskan waters, so there is no argument on environmental safety grounds."

It's also important to know that most ships moving crude oil into the Gulf Coast at present are foreign flag ships. Otherwise, consumers in the Lower 48 would be paying a lot more for oil if, as the merchant marine wants, they got preference on that trade as well.

The other day I called someone at the U.S. Department of Transportation who is in charge of looking at the environmental impact of foreign flag ships moving into this trade and posed the question, "Do foreign flag ships pose a greater environmental hazard than U.S. flag ships?" He basically said, "No."

"Foreign flag ships moving into U.S. ports must comply with Coast Guard restrictions."

The reasons are that foreign flag ships moving into U.S. ports must comply with Coast Guard restrictions. They are under controlled movement and so on. Whatever their record elsewhere in the world, their record as far as moving into this country is pretty good.

Question:

What are the security implications to the Japanese of moving Alaska oil on Jones Act tankers?

Dr. Thayer:

There is a very good argument for carrying Alaskan oil in American bottoms. And that is one the Japanese don't usually make, but one that they will, when it is made to them, find attractive.

They want secure supplies of oil coming into Japan. If that oil comes out of Alaska and goes to Japan, it goes through waters which are heavily infested with the Soviet Pacific Fleet. There is no better guarantee that the oil that comes from Alaska will reach Japan than if it is carried in American bottoms. Nobody's going to stop it.

"There is no better guarantee that the oil that comes from Alaska will reach Japan than if it is carried in American bottoms."

Question:

What do the Japanese need most?

Dr. Thayer:

It goes back to about 1972. The Japanese got hit in the first oil crisis. All of a sudden they focused on the fact that they were immensely sensitive to pressures in energy. They don't have energy resources of their own; so they started working very hard and fast to make sure that something like that never happened to them again. They have a word, "energy security." What they have done is cut back on consumption in their own country, installed all sorts of energy saving equipment, and then they started moving out overseas.

In 1972, 90 percent of their oil came out of the Middle East. They started moving into Nigeria, Venezuela, Mexico, Indonesia, the China Sea, even in places that are very marginal like Sakhalin, the islands north of Japan, and into the waters off Vietnam. In other words, they are trying to distribute their access to oil.

"What the Japanese are looking for is political stability."

What they are looking for is political stability. Where's the most politically stable place in the world? Right here in Alaska. And what holds for oil is also true for gas.

Their whole economy rests on the United States. There is no way for them to avoid it, and they are perfectly willing to admit it. A Japanese prime minister, if he can't get along with the American president, is no longer Japanese prime minister. So, they should be interested in what's going on here. That's the political reality.

The bureaucratic reality is that they have spent 10 years developing resources in other countries. They've already put their money elsewhere, and the bureaucrats aren't willing to switch it around. So a bureaucratic reality is facing a political reality. If you push a little bit, it's the political reality that will win out.

Question:

Is the Japanese government interested in the 26 trillion cubic feet of natural gas on the North Slope?

Dr. Thayer:

The Japanese government isn't going to buy one cubic foot of gas. No matter how much talk goes on in that Working Group, that isn't going to convince any Japanese industrialist to buy that gas. He's going to make up his own mind whether he wants it or whether he doesn't. The basic decision will be made by a Japanese consumer in Japan.

Question:

With the present oil glut on the West Coast, it's obvious that the markets have to be somewhere else. You talk mainly of Japan. What about the Koreans and the Taiwanese?

Mr. Hoyler:

Let potential buyers figure out who wants to buy. My point is that there are clear economic incentives on our part for making that oil available. We might have to give them a little bit of a sweetener initially to get them to change their refinery configurations and so on to induce them to import Alaskan oil. But certainly for the royalty oil that you have here in Alaska, you should have no trouble whatever in setting a price which is both sharply higher than the price that you get right now in the states and an attractive price from the standpoint of Far East refiners.

Question:

What are we looking at as far as the wellhead price on the North Slope if we sell oil on the Pacific Rim?

Mr. Hoyler:

You have to distinguish between different producing fields depending on their tax situation. All North Slope formations, except the Kuparuk, are subject to the federal Windfall Profits Tax legislation; so out of each dollar added to the wellhead price the breakdown is roughly $0.60 to the federal government, about $0.32 to the State of Alaska, and about $0.08 to the producer.

There would be a different breakdown for new production elsewhere on the North Slope, which would not be subject to the Windfall Profits Tax. Incidentally, for new production on the outer continental shelf, it's important to note that the Windfall Profits Tax law has a sunset provision. If something like $223 billion is raised by 1987, the law no longer applies. If they don't raise that figure, the statute starts to phase out at 3 percent per month at the beginning of 1991.

Question:

Could you enlighten us for every barrel produced on the North Slope what that might mean to State of Alaska revenues?

Mr. Hoyler:

You should expect to see roughly $0.90 more per barrel. It's $0.90 per barrel times 1.7 million barrels per day minus the Kuparuk figure times 365 days. It's a big number.

Question:

I don't seem to be able to understand why the producers, the current owners on the North Slope, are not championing this cause.

Dr. Ebinger:

The major companies involved in the Trans Panamanian Pipeline and the tanker fleet would indeed, to a significant extent, continue business as usual. When you look at the fact that only a small portion of oil is probably likely to be required in Japan in the short-run, I don't think it's that big a problem. But, to be sympathetic to the producers, I think you do have to note that they made these decisions in good faith after the logical export was blocked by the United States Congress. They have made billions of dollars of investments that are not amortized.

"The producers made the decision to buy U.S.-built tankers in good faith after the logical export was blocked by the U.S. Congress."

It's also, however, important to note, that probably in 3 to 4 years the pipeline investments across Panama will be amortized; so it's not a long-term problem that these tanker owners are going to have to deal with for the indefinite future.

But a final point is that when these tankers leave Valdez and move beyond the 3-mile limit into the high seas, that crude oil loaded at Valdez becomes foreign source income. This makes it very lucrative in terms of its exemption from the federal tax system. It encounters something like $0.91 back on every dollar spent in the transportation sector. So some of the arguments by the owners of these ships that, having made the investments, they should be protected, are not nearly as persuasive when you look at the total economic package.

Question:

Is there any formal statement whether the oil industry favors the lift on the ban?

Commissioner Wunnicke:

Their stand on lifting the ban varies from producer-to-producer. I have not seen any formal response. But what has been said to me in private conversation is that they would cheer if the ban were lifted, but they would not want to see it lifted with a lot of conditions attached.

Mr. Hoyler:

We fought this issue out a couple of years ago with the big three North Slope producers SOHIO, EXXON, and ARCO. SOHIO came in when I was at the U.S. Department of Energy and said, "We lose as shipping operators. We win as oil producers."

ARCO came in and said, "Don't do it." ARCO's decision was apparently made by ARCO Transportation Company. A very nice fellow, who's the president of that firm, came in and was quaking in his boots because he had bought all these boats and was set to buy some more. He knew that if we permitted exports it would mean that he had bet wrong, and he was going to lose money and be standing there holding the bag.

EXXON took a low profile on the issue.

Right now, as far as I can make out, ARCO's still against it, although they may be taking a lower profile. SOHIO is leaning for it, although they did not testify. Sun Oil Company, which doesn't produce up here but does own some of the ships in the trade, is against it. EXXON apparently is again taking a low profile.

"In the Congress, if the oil companies are for it, then you know it has to be bad."

The important thing to note is that within the administration, if the oil companies are for it, some of the pro-business people say, "It must be good thing." In the Congress, if the oil companies are for it, then you know it has to be a bad thing.

So, the most politically astute approach for the oil companies is to keep their mouths shut.

Question:

Who are the main opponents of exports?

Mr. Coyner:

The maritime industry is very well organized. They've been through this a few times before. There is a coalition in Washington, D.C., called, "Let's Keep Alaska Oil." It is made up of about 30 different maritime, union, and consumer interests. They have a lot of money and a lot of power, and they're moving ahead very, very rapidly.

Question:

If Alaska oil exports are to be transported in Jones Act bottoms, are there other remaining political realities that stand in the way of getting this restriction lifted?

Mr. Hoyler:

We are not going to buy off the U.S. flag merchant fleet and the seaman on that fleet by granting them 100 percent preference on the Alaskan trade.

The first reason is that right now to carry the crude from Alaska to the Gulf Coast, something like 55 to 60 ships are involved out of a total of 75 in the entire trade. These are rough numbers.

If you permit exports, and assume for the moment that the entire adjustment takes place and 850,000 barrels per day are going to Yokohoma and none to the Gulf Coast anymore, it'll only take between seven and 10 U.S. flag ships to carry all that oil. The reason is because it's a longer trip down through Panama, and it's also a much more complicated trip. You have to do this offloading from VLCCs (big tankers) that carry the crude down to the West Coast of Panama onto the smaller tankers that make the Panama-Gulf Coast run.

There aren't a lot of jobs involved, but you're not going to protect all of those jobs by permitting exports. If you figure 25 to 28 crewmen per tanker times 10 tankers, you're looking at 280 jobs saved versus a loss of 1500 jobs on an annual basis. The maritime union calculates that loss to be 3,000 jobs since they only work six months out of the year. So, when Senator Stevens and Senator Murkowski make this political judgment that we're going to have to let it go in U.S. flag bottoms I defer to their expertise. But no one should believe that by so doing we are not going to face enormous opposition from U.S. flag seaman.

And those fellows are very used to earning (not earning, "receiving") enormous salaries because of this preference embodied in law, and they know full well that removing the export ban makes it less likely that they can continue to receive such salaries, so they are going to oppose it tooth and nail.

Question:

Do you believe the Reagan administration's going to carry the ball to permit exporting?

Mr. Hoyler:

That's the $64,000 question, folks. This administration came into office saying that they were going to deregulate the American economy, talking about the benefits that flow when you free up the market and when you let businessmen make decisions rather than well-meaning politicians and well-meaning bureaucrats in Washington, D.C.

So, from the standpoint of the administration's ideology, they ought to go for it. On the other hand, there is a certain schizophrenia in this administration between people who are genuinely free-market proponents and people who are what I describe as pro-business. Now the difference is that someone who is pro-business doesn't like the idea of business losing money. He likes the idea of business making more money, and he doesn't much care how that happens.

"Unfortunately, from my standpoint, the Reagan administration is not made up entirely of free marketeers."

A free-market proponent wants the market to work, and if a businessman loses money, too bad. For example, if the owners of U.S. flag tankers lose money because they choose to prohibit exports, that's their problem. There is no argument from the standpoint of a free marketeer that the American people should guarantee any businessman a profit. It's his business to make a profit by the way he behaves in the marketplace.

Unfortunately, from my standpoint, the Reagan administration is not made up entirely of free marketeers. You used to have people like former Secretary of Transportation Drew Lewis who fought permitting exports very hard because he wanted to protect the administration's political flank from the powerful maritime industries. There's a war within the administration about what to do. They know that there are very strong political costs associated with going up on the "Hill" and saying, "Yes. We want to send oil to the Japanese."

"A lot of congressmen can't figure out why exports are a good idea."

A lot of congressmen just can't figure out why that's a good idea. And those who can figure it out know darn well they're going to have a hard time explaining it to their constituents.

The $64,000 question is will the administration want to incur those political costs. I know that the analysis going on in the administration strongly says to do it. And the free marketeers within the administration, people like Dave Stockman, say, "No problem. Do it." Whether that will win over the president given the other things he wants to accomplish and the fact that he knows he has to pay a political price on the "Hill" is a hard call.

Question:

We heard from Mr. Hoyler about the politics of oil in Washington, D.C. What are the politics in Japan regarding the import of oil from Alaska?

Dr. Thayer:

Japan's a big flourishing democracy, which means it spends most of its time stumbling over its own feet. If you are going to play politics in Toyko, you're going to have to play full-time politics. It isn't just a question of going to the Japanese Foreign Ministry, making your case and then going away. You've got to go to the Ministry of International Trade and Industry. You've got to develop your own friends among the politicians. In other words, you have to play democratic politics. They have lobbies that go one way or another, and you have to get in there and fight.

"Japanese politics are no different than Washington politics or Anchorage politics or Juneau politics. They're all screwed up."

Right now, most Japanese have found Washington politics to be pretty erratic. They find politics, say in Indonesia, to be more stable. At least the bureaucrats do, because they can go to a place like Indonesia and project over the next 10 to 15 years what is going to happen and then they can make their investments. This is what they have done in terms of natural gas and oil. They also find the Saudis stable. To them, it's Washington, D.C. that's not stable.

In reality, Japanese politics are no different than Washington politics or Anchorage politics or Juneau politics. They're all screwed up.

Question:

Is there a collision between the duty to maximize revenues from natural resources and in-state refinery expansion as to highest and best use? How does the state weigh those competing demands?

Commissioner Wunnicke:

The state's position is consistent when you realize that the basis for the price to the state as royalty-holder is the netback price. So if the transportation cost is reduced and that netback price is raised, we would receive additional payment under our contracts because those contracts are based on that netback price also.

So if by virtue of raising the export ban, the netback price was increased, you would not only increase the price for any state royalty oil that was sold for export, but you also would increase the price under the contracts that I mentioned.

It takes a long time for this kind of market to develop, even though we should begin immediately. And in the meantime, we will have met in-state refining needs, we will have received the best price possible under those contracts for in-state refining, and we will be in a position as those markets develop to respond to other opportunities in the future.

Alaska always faces that ambivalent position of being both landowner and government. It has to strike a balance between what maximizes return as a landowner and also what is good public policy for the larger economic benefit to the state in terms of jobs and capital investments and building of a society in Alaska.

Question:

If indeed exports are in the national interest, how can that story get across to the American people?

Mr. Hoyler:

The first things you need are very well-informed advocates in Washington, D.C. This is a complicated issue and it's important that the advocates have the details straight. It's important that they know there will be a small rise in costs to consumers on the West Coast, and that the discount exists only as long as ARCO chooses to let it exist. The minute ARCO decides otherwise, it disappears.

The last point is that it's important that your advocates stand up and be heard. When I testified before the U.S. House of Representatives the other day, the hearing began with two U.S. congressmen saying why it was a terrible idea to permit exports and they went on at some length saying, "We can sure understand why nobody from Alaska's here. You just can't possibly make a good argument for permitting exports." That was too bad for Alaska and too bad for the country. You have to have people knowledgeable about these arguments and you have to get them up front in the forum, because you face a formidable task of public education and political persuasion.

Question:

We hear a lot about the Alaska image (good, bad, or indifferent) from our brothers in the southern 48. What is the Alaskan image in your point of view and will this hinder our efforts to export?

Dr. Ebinger:

I hate to say this to an audience in Alaska, but from the perspective of most people in Washington, D.C., it would probably be difficult for them to locate Alaska on a map. And I say that quite seriously because I think there is an appalling ignorance of Alaskan issues and particularly the whole host of issues you have with the overwhelming presence of the federal government in everything you want to do in this state.

But, I don't feel on the other hand that there's any perception that somehow Alaska is benefiting at the expense of the rest of the country. So from that standpoint, I don't think you have to overcome a negative influence in Washington.

Question:

Do you believe we should stand back and wait for conditions to change in 10 or 15 years or should we press right now to lift this ban?

Dr. Ebinger:

Well, I believe we should press right now. I am truly a free trader and I believe that means free entry and free exit. The economics are overwhelmingly in favor of the export of Alaskan oil. I think we'd do a lot better to promote further oil and gas development in the United States if we either rescinded or reduced the Windfall Profits Tax altogether, but that is unlikely to happen given the deficits in the federal government.

"The economics are overwhelmingly in favor of the axport of Alaskan oil."

Dr. Thayer:

The issue has been joined. Prime Minister Nakasone and the president talked about this issue, and the prime minister said he wanted Alaskan oil. The president said he was going to try to do something about it. It was a very vague, general conversation. But, the issue is joined.

I have also talked with people in the Japanese Oil Institute and they say right now if you were to try to sell them oil they couldn't buy it. They have too much oil.

But I'm hesitant about hooking up the current market and our export ban. The Japanese need to be able to plan into the future what their purchases are going to be. So long as that law is on the books, they ignore the U.S. and identify other areas for development to satisfy their oil needs. We've got a prime minister and a president who have said they wanted to go ahead and do it.

So I say, take this law off the books. Get rid of it. If you fail this time, the Japanese aren't going to count on Alaskan oil for anything at all in the future, and that goes for Alaskan gas, too. It's just too politically volatile.

"We have a president and a prime minister who have said that they want to go ahead and do it."

The issue is joined now. We shouldn't argue about what the market is, whether it's going to be big, little, small, growing, diminishing. Whatever it is, get rid of that damn law. Then let the market forces play.

PREPARED STATEMENT OF TESORO PETROLEUM CORP.

Tesoro Petroleum Corp. is the owner of Alaska's largest and most sophisticated refinery located on the Cook Inlet at Kenai, Alaska. This refinery is designed to process low sulphur Cook Inlet crude. Recently, plans were announced by the company to expand the refinery from its current capacity of 48,500 barrels per day to 80,000 barrels per day and to modify the refinery to process higher sulphur Alaskan North Slope crude oil. To support the increase in capacity, Tesoro sought to increase its purchases of royalty crude from the State by 26,000 barrels per day. A contract was successfully negotiated with the State, but the legislature failed to call for a vote to approve and ratify the contract prior to adjourning. In the absence of an assured long-term supply of crude, work on the expansion project has been suspended.

Alaskan statutes provide that state royalty crude may be exported from the State, but only upon the finding that the royalty crude to be exported is surplus to the present and projected needs of in-State refiners. Tesoro has demonstrated a clear present and projected need for crude oil for in-state processing.

It is certainly in the best interest of the State of Alaska to examine all possible means of achieving optimum realization for its royalty crude and the sale of royalty crude in the export market may well be one of an array of means to achieve that objective. It is abundantly clear, however, that the use of state royalty crude to satisfy the needs of in-state refiners has statutory priority over the export of that crude.

Tesoro supports efforts to enhance the value of Alaska's natural resources but urges that it be done in the context of first providing raw material support for the growth and development of the in-state refining industry.

PREPARED STATEMENT OF ASHLAND OIL, INC., ASHLAND, KY., PERMITTING EXPORTS OF ALASKAN OIL

BACKGROUND AND POSITION

Alaskan North Slope crude oil should not be prohibited from export. The legislative barriers that were erected should be replaced by a more permissive policy that reflects the foreign trade and crude oil supply situation today.

Ashland Oil supports the export of Alaskan oil, at least to the extent that it might be exchanged overseas for like quantities of foreign oil to be imported. The result should be cheaper oil for U.S. consumers, reduction in our balance of payment deficits, increased tax revenues for the United States and Alaskan governments through increased ANS production, and perhaps better quality oil available to U.S. refineries. It will surely create a market for ANS crude where none now exists. Production rates of ANS oil will be increased, and incentives for further exploration established. If the oil can be exported in foreign flag tankers, there is the potential for U.S. maritime jobs to be lost. This could be prevented by limiting export volumes to the "incremental production" as we outline below.

Our opinion as to the wisdom of exporting ANS crude has depended largely upon the availability of cheap transportation to move this crude to the main U.S. markets in the midwest and gulf coast. As a crude deficient midwestern independent refiner, Ashland has only occasionally been a purchaser of North Slope crude. Ashland was once a participant in a proposed project (Kitimat) which would have permitted economical pipeline movement of North Slope crude across British Columbia to Edmonton, Alberta, for delivery via existing pipelines from that location to midwest U.S. refineries, including our own. That project was finally aborted due to opposition from environmental forces to the construction of a tanker terminal at Kitimat, British Columbia. Environmental concerns also caused cancellation of a Sohio proposed pipeline running east from Los Angeles.

Had the Kitimat project, or any other viable project to move ANS crude cheaply to major markets east of the Rocky Mountains, come to fruition, there would have been no surplus of domestic crude oil on the west coast, thus no need to look to exporting the North Slope crude oil.

Worldwide petroleum supply and distribution patterns are always dynamic. Many changes have taken place which should be of some influence on Congress in reviewing the ANS export situation. U.S. consumption is down, imports are down, and the nation is not so vulnerable to supply cutoffs as it once was. The availability of increasing supplies from nearby Mexican crude oil fields is another factor. Still another is the IEA agreement, which dictates that we will share crude oil with other nations in the event of an emergency. Finally, there is the promise of large new oilfields recently discovered off the coast of California. Development of these fields will reduce the need for Alaskan oil on the West Coast.

Ashland feels that in general the worldwide oil industry should be allowed to operate as flexibly as possible in its competitive endeavors to minimize costs between the wellhead and the final consumer. If there are economies to be offered by the export of ANS crude (and we feel there are), then that export should not be prohibited by government edict. Else, that same government edict is burdening America's consumers with added costs.

However, recognizing political reality, there will surely be loud cries from those who feel we should not be exporting our precious resources at the same time we are buying from abroad for storage in underground caverns as protection against future shortages. Particularly, many of the advocates of "Save America's resources for Americans" worry that long term sales contracts for ANS crude to other nations abroad might be honored at the very time that foreign sales contracts to American companies were being abrogated (by embargo, etc.). Thus, our own security would be jeopardized by export sales. This concern could be alleviated by requiring that ANS crude could be exported only under conditions of an exchange. Thus, ANS crude would be delivered to Japan only if Japan provided a like quantity of foreign oil for delivery to an American port. To make such an exchange practical, both nations should realize savings through negotiated transportation savings differentials. (A requirement for use of U.S. flag vessels could eliminate any potential savings.) However, if world conditions were ever such that Japan were unable to purchase oil for delivery to the United States, there would be no ANS oil shipped to Japan. Thus, in effect, all ANS crude would be utilized at home, directly or through equal volume exchanges.

We recognize that the exchange procedure would not accomplish a reduction in the trade deficit with Japan, as would be the case with an outright sale. However, such exchanges should permit greater production of "domestic" (i.e. ANS) crude oil by eliminating existing transportation bottlenecks between Valdez and U.S. ports. Estimates are that ANS crude production could be increased by as much as 500-600 MB/D without these bottlenecks. Production of this volume for exchange overseas would lower U.S. net imports by the same amount. Therefore we would reduce the worldwide U.S. negative trade balance, while at the same time protecting American supply for domestic use.

A strong argument against permitting exports of ANS crude comes, perhaps surprisingly, from some of the North Slope producers themselves. One of their more valid arguments concerns the fact that they made investments (American Flag tankers, Trans-Panama pipeline, etc.) to move ANS crude to Gulf Coast ports, a move made necessary by the export prohibition in existing law. If the law is changed, they argue that these investments would be rendered essentially useless.

If investment for previous compliance is indeed a problem serious enough to prevent corrective action, consideration could be given to permitting export or exchange of only the incremental ANS production, i.e. an amount above a certain historical base. The historical volume would continue to move to U.S. ports, while only the incremental 500-600 MB/D could be exported. This is admittedly a compromise, but may be much better than just a "partial" solution. While the reduced foreign crude imports will still benefit our balance of trade, such a solution will eliminate potential problems with losses of jobs in the maritime unions. Export of only the incremental volumes also has a national security benefit, in that we wouldn't be dismantling a delivery mode from Alaska to the Gulf Coast (albeit expensive) which we might need again on short notice in the case of a supply emergency.

II. IMPACT OF RESTRICTION OF ALASKAN EXPORTS ON ASHLAND

Prohibition of ANS exports has impacted Ashland in a number of different ways. As we stated earlier, Ashland has very little of its own domestic crude production, so we must purchase virtually all of our refinery requirements from others. Our refineries are located in the Midwest (Buffalo, N.Y. to St. Paul, Minn., south to Kentucky). For ANS crude to reach our plants, it must move by U.S. flag tanker from Valdez to Panama, traverse the isthmus by pipeline or canal, move again in U.S. Flag tankers to the Gulf Coast, then by pipeline to our plants. The cost of all this transportation is prohibitive, except in rare circumstances. Thus, we have essentially been precluded from fully 10-15 percent of the total U.S. crude oil sales market.

Finally, Ashland is a partner in the Louisiana Offshore Oil Port (LOOP), a project conceived and built to allow delivery of crude oil to U.S. shores in Very Large Crude Carriers (VLCC's). Since commencing in late 1981, LOOP has operated far below breakeven capacity, partly because the ANS export prohibition forces much of this crude oil to the Gulf Coast through the Panama Canal or the Trans-Panama pipeline. The size limitation on the Canal, and/or the short haul to the U.S. Gulf Coast from the Panama pipeline eastern terminus, dictates the use of small tankers for delivery into U.S. ports, and thus by-passes the LOOP facility. By permitting exchanges, the replacement oil can be imported more cheaply via VLCC's through LOOP.

III. CONCLUSION

We believe the strict legislative prohibitions on exports of Alaskan oil should be lifted. These statutes should be replaced by a more permissive policy, that would allow export of ANS crude only under conditions of an exchange. If politics dictate no decreased utilization of U.S. flag tankers, export could be permitted only for those volumes produced above a certain historic base. The historic volumes would continue to move in the present mode.

TESTIMONY BEFORE SENATE FOREIGN RELATIONS COMMITTEE
EAST ASIAN AND PACIFIC AFFAIRS SUBCOMMITTEE

Richard E. Bennett, Vice President and General Manager
Western Region
Petro-Lewis Corporation
July 19, 1983

Introduction/Summary

Petro-Lewis Corporation is an independent producer of oil and gas that has been headquartered in Denver, Colorado since its inception in 1968. The company and its 140,000 limited partners, who are small individual investors, own and operate hydrocarbon-producing properties located throughout the U.S. Petro-Lewis has five regional offices in Houston, Texas; Oklahoma City, Oklahoma; Billings, Montana; Lubbock, Texas; and Bakersfield, California.

Twenty-five percent of our total production of crude oil (85,000 bbls/day) comes from PAD District #5, specifically California and Alaska. Petro-Lewis and its limited partners have a 0.1% interest in the Prudhoe Bay Unit of Alaska, amounting to production of about 2,076 bbls/day, as well as 17,430 bbls/day of production in California. This oil production is priced at the wellhead at a value far below that for similar grades of crude oil, located in the U.S. or in the rest of the world. The principal reasons for this hardship are the glut of crude oil supply on the West Coast stemming from the laws banning the export of U.S. crude oil and the nature of the crude oil transportation/marketing system in the U.S.

Therefore, PLC hopes that Congress would carefully consider changing the Export Administration Act to permit the export of Alaskan or West Coast crude oil, crude and product blends, and to ease the export regulations for refined petroleum products. Our principal reasons for taking this position are listed below, but we sincerely believe that not only our company but the U.S. as a whole would benefit from a freer international trade policy which included hydrocarbon products.

1. The opportunity to export surplus crude oil from PAD 5 would accelerate the development of regional hydrocarbon supplies because additional markets would be available for both oil and natural gas from Alaska. These additional markets would improve competition among refiners for crude supplies and wellhead prices for oil would rise. This kind of competition would provide incentives to reduce transportation costs, improving the efficiency of use of domestic hydrocarbon resources.

   Independent oil producers who do much of the oil exploration and development would then improve their cash flow, improving their ability to invest in enhanced oil recovery projects, in new OCS oil development, and in new onshore fields in PAD 5. This kind of activity would slow the natural decline rates for U.S. oil/gas production.

2. Accelerated development of our national hydrocarbon resource base would create more jobs, productive investments in direct as well as related businesses (like steel), and more total output and incomes.

3. Retail consumers of petroleum products would not experience higher prices nor reduced supplies.

4. The ability of our government to set up and implement effective trade strategies with our industrialized allies and the underdeveloped countries in our hemisphere would be enhanced. The export of U.S. crude and natural gas products from the North Slope may increase direct investments of other countries in the U.S. or strengthen already-existing trading ties.

   These trade strategies are integrally tied to our foreign policy positions with Mexico, Central America, Japan, and other Pacific Rim countries.

5. National security would not be impaired. During an oil supply disruption, prices would necessarily rise because the world oil market is unified. The availability of domestic supplies of crude or petroleum products might be reduced because the IEA agreements would require the U.S. to share our supplies. Nonetheless, the Strategic Petroleum Reserve and private stocks could mitigate that process. Other countries also maintain strategic stocks. Our firm trading relationships with allies could permit oil exchanges or temporary suspension of contracts during an emergency. In the event

of a Mideast oil disruption or war, it's unlikely that the small carrying capacity of most Jones Act vessels would be of much help in quickly moving significant amounts of oil to our allies in Europe and Japan. If Alaskan oil exports were allowed, Mexican oil would most likely replace the Alaskan oil formerly sold on the Gulf Coast. In times of supply shortages, the establishment of strong ties with Mexican sources of oil would also help our national security.

6. It seems inequitable to subsidize the jobs of only about 8200 seamen in the Jones Act fleet when so many are unemployed today. The inefficiencies in the U.S. oil transportation system could fund significant job improvement in hydrocarbon production and related businesses. If the export ban were lifted, the more general trade businesses in PAD 5 that deal with the Pacific Rim countries could also benefit.

The Independent Oil Company and the Marketing System

The independent oil company makes its gross income from the sale of crude oil or natural gas at the wellhead. Since it has no appreciable refining, petroleum product retailing or shipping capabilities, it cannot diversify the sources of its gross income into other related business activities. Nor can the independent company spread its business operating risks in exploration, development, and production to other business lines. Therefore, the independent has difficulty competing with the integrated, major oil companies who dominate the transportation, refining, and retail marketing systems for both crude oil and petroleum products.

The domestic crude oil marketing system has a number of important features that should be remembered:

1. Independent producers must accept the refiner's "posted price" or find another buyer and transporter for its wellhead production. Except for Alaska and California, most refiners post similar prices for specific grades of crude oil (according to API gravity and sulfur content). There has been an oil glut on the West Coast since the late 1970's as Alaskan North Slope (ANS) crude output increased and exports to noncontiguous nations were prohibited. Wellhead prices are therefore depressed in both California and Alaska. Another important factor contributes to those low wellhead prices - ANS and California crude oils are far from the major refining centers of the U.S. and most of the dense population centers that consume petroleum products. The long transportation routes to the Gulf Coast and East Coast are costly and thus depress wellhead prices received by independent producers. There are no interstate crude oil pipelines to connect the PAD 5 region with the rest of the U.S. so costly sea transportation in Jones Act tankers is necessary to relieve the West Coast glut.

2. Refiners can buy crude oil from a wide variety of domestic and foreign sources, but they are willing to do so only at similar delivered prices to the refinery gate. ANS and California crude oil's market price to a Gulf Coast refiner is the price it would post for similar grades of local oils. But ANS and California independent producers must absorb very high transportation costs,

compared to either domestic producers in the Gulf Coast region who transport by local pipeline or any foreign producers who ship by efficient VLCC tankers, in order to compete for a refiner's attention on the U.S. Gulf or East Coasts.

3. Independent producers pay state severance taxes and windfall profits taxes based upon the wellhead price of crude oil, i.e., this "netback" price (market value at refinery gate less all transportation costs) explained in Item (2) above. Depressed wellhead prices reduce the tax receipts of government and the royalty payments to the state, Indian tribes, or individuals.

4. Oil and gas must be shipped from the well to refiners and then ultimately to end-users. Oil can travel by pipeline, ship, or truck in the traditional ascending order of cost. ANS crude is so remote from end-users that it travels farthest, ultimately using all transportation modes. ANS crude must use the TAPS line at a cost of $5.75 - 6.75/B to reach Valdez. Excess crude supplies from the West Coast travel to the East Coast, using pipelines and ships for about $4.50/B (Valdez - Gulf Coast). However, independent producers do not participate in the profits of the oil transportation industry nor benefit from the foreign income tax credits available to seaborne shippers who travel outside the three mile limit of U.S. waters.

5. Since most end-users do not desire crude oil, but only some refined product like gasoline or residual fuel oil, refiners handle the

"manufacturing" and often the retail distribution process. Each refining plant can process a limited range of crude oil types, often using blends of various oils, and produce a specific slate of finished products from gasoline to asphalt. The profits of each refiner are, therefore, dependent on the cost of crude oil input and the value of their finished products. Refiners try to closely gauge retail demand for their finished products in their regional markets while minimizing raw material costs (crude oil). To that end, they have been slowly reinvesting in new plant and equipment to process heavier, cheaper crudes into more of the highest-valued finished products like gasoline and distillate fuel (diesel).

Compared to independent operations, vertical integration has real economic advantages for the major oil companies, especially those operating in California and Alaska. They own the TAPS pipeline to the port of Valdez and charge about $6.75/B transportation fee to independent producers. They also own or long-term charter a Jones act tanker fleet which ships oil from Valdez to California for about $1.50/B or to the Gulf Coast for about $4.50/B. Much of the income from transportation activities can be protected by foreign income tax credits. The major refiners in California post crude oil prices that compare to Gulf Coast crude of similar quality less transportation from the Gulf to California. On the North Slope of Alaska, the majors offer to market crude oil for a "netback" wellhead price at Pump Station #1 which is the residual amount left over after shipping charges to the Gulf Coast. This significantly reduces their tax and royalty payments to federal and state government, making economically possible such long transportation routes (about 6600 miles).

Vertical integration can enhance total corporate profits for major oil companies while providing no price relief to retail consumers of petroleum products. Lifting the ban on crude oil exports would improve the competitive situation for independent producers. It is very unlikely that the entire West Coast surplus of 700,000 - 800,000 B/D would be exported. In the first three years after the EAA's revision, oil exports of about 100,000 - 400,000 B/D would be probable, according to a number of independent studies. U.S. consumers would not experience rising retail costs nor any change in their supply availability as a result of this competition.

The U.S. Energy Situation

The U.S. energy situation has changed significantly for the better over the last decade - from rapidly rising demand for oil, increasing imports, and relatively stable prices to declining demand, decreasing imports, and much higher price levels. Americans have learned that the U.S. cannot be self-sufficient in oil, but we have greatly improved our energy efficiency in all end-use sectors, decreased our demand for imported oil, created the Strategic Petroleum Reserve (SPR), increased private stocks, and signed the IEA agreements.

In 1979-80, imports supplied almost half our demand for oil while today they meet only one third of our requirements. Mexico is now our largest supplier of imported crude and the entire importance of OPEC as a supplier to the U.S. and the world is lessened.

Because of price increases over this 10-year period, significant new supplies have been located and put into production in the U.S. (Alaska, California, and the Gulf Coast) and in non-OPEC countries like Mexico, the U.K., and Norway. For the first time, non-OPEC production was larger than OPEC output in 1982. Domestic development activities and tertiary recovery investments have progressed well so that the U.S. proved and potential reserve base for hydrocarbons has grown. U.S. oil production has stabilized at 8.6 MBD.

The California/Alaska Energy Situation

PAD 5 (principally California and Alaska) is a very important part of the U.S. oil market. California and Alaska account for 47% of U.S. proved reserves, compared to 38% for Texas and Louisiana (the other important oil region in the U.S.). Alaska and California make up about 34% of total U.S. production, and their share has been growing rapidly since 1977 (the onset of significant Prudhoe Bay production). PAD 5 wells are very productive, each well producing an average of 55 B/D (largely due to the Alaskan wells that produce 2299 B/D) compared to the U.S. average of 15 B/D. California has the second smallest number of stripper wells, and each of these are among the nation's most productive (4.8 B/D versus 2.8

B/D for the US average). Significant investment in secondary and tertiary oil recovery have been made in California in recent years. Much of this resource development has to do with price escalation since 1973, the oil shortage in the region until 1977, and attempts to maintain or improve older oil field recovery rates.

However, since the late 1970's, demand for petroleum and petroleum products has been declining. Alaskan supplies and California supplies have been increasing. Therefore, California wellhead prices have been significantly depressed below other U.S. prices for similar grades of crude oil due to the new Alaskan supply becoming available in the California market. Internal corporate analysis indicates that this glut is likely to continue in California from the late 1980's through the early 1990's, so that California wellhead prices for crude oil will continue to be quite a bit less for similar grades of crude oil in the U.S. with the attendant hardship on wellhead producers, which, in turn, discourages production, drilling for new reserves, and discourages development of future supply.

We believe that these negative effects are not what Congress intended when they enacted legislation to ban the export of crude oil to protect national supply and security. It is now clear that U.S. supply and national security would benefit from the opportunity to export.

Only 18% of U.S. refining capacity is located in PAD 5, compared to 45% in PAD 3, which includes the Gulf Coast, and 23% in PAD 2 (Midwest). The Gulf Coast's refining activity has continued to grow over the last 20 years. California refining activity has grown much more slowly while all the other regions have shown declining trends. PAD 5 can handle ANS crude and local, heavy crudes in complex refineries which were developed over the last 3-5 years. New OCS California discoveries are so heavy, high sulfur, and high metal in quality that refining will be difficult and will require significant new investments to process in PAD 5. Otherwise, these new supplies will have to be refined elsewhere. Without removal of the export ban, such oil will either be sent to the Gulf Coast, or not developed to any significant extent.

By itself, Alaska has about 20% of all U.S. proved natural gas reserves, (32 TCF), and huge potential gas reserves (200 - 500 TCF), but absolutely no means to transport it to any market. Some gas is being reinjected into oil wells to maintain production, but this process cannot continue for more than 5 years or so without decreasing oil production. It will take a decade to develop a system to move this difficult-to-transport commodity to a market. Without an extensive pipeline system which would be extremely, if not prohibitively expensive, natural gas's form must be changed to LNG, methanol, fertilizer, or something else that can be easily shipped. It seems a terrible waste not to plan to develop and use this resource to the benefit of the U.S. in international trade if we are unwilling or unable to use it ourselves in the lower 48 states. Jobs and incomes could be created in PAD 5, in the U.S., and in the Pacific Rim area as a result of such resource development. Markets for LNG or other forms of natural gas could be found, if the U.S. would modernize its hydrocarbon trading policy so that business could be done within it.

Alaskan oil production has been steadily growing since 1977, and new supplies are now being developed in the Kuparuk Field. Output now stands at 1.7 MBD and may rise to 1.8 - 1.9 in the next few years, very close to the carrying capacity of the TAPS pipeline to Valdez. The Northville pipeline (Panama) will run close to capacity next year at about 650,000 B/D, implying higher transportation costs and lower wellhead prices for crude that cannot travel through the pipeline.

Current ANS fields have high deliverability characteristics but are not expected to have very long lives. Unless the export ban on crude oil is lifted, explorers, developers, and producers of crude oil will not try to maintain the proved reserve base of oil in PAD 5. In 1981 the proved reserve base declined by 3-4 %. The incentive for competition provided by the opportunity to export will encourage investments in maintaining and expanding production in California and Alaska, wherever possible. Competition will probably raise wellhead netback prices and reduce transportation costs in PAD 5, but it does not necessarily mean the approximate 700,000-800,000 B/D surplus on the West Coast today will be entirely exported. Only a small portion is likely to find external markets in the near-term, given the current structure of the oil industry's transportation/marketing system. Without the opportunity to export, however, California wellhead prices are likely to be more severely underpriced in the 1984-90 period because the West Coast surplus of crude oil is expected to grow to .9-1.1 million B/D, declining to the .7 million B/D range in 1990-2000. A variety of studies support similar conclusions - in the next 5 to 10 years, the glut will remain about as it is now or grow. Recent oil discoveries on the OCS of California also support this conclusion.

Domestic Cost/Benefit Analysis

We believe that, overall, permitting the export of crude and refined products will be beneficial not only for the PAD 5 independent oil industry but also for the nation, for the following reasons:

- jobs will be created in developing the hydrocarbon resource base in PAD 5 for a larger market. These jobs will be in oil exploration, production, and transportation, and related products manufacturing (especially steel), etc.
- federal and state tax receipts will rise with improved wellhead prices.
- royalties to the state or Indian tribe will increase.
- consumer gasoline costs should not increase above the national average, nor should availability change.
- inefficiency in our transportation system will be reduced by competition, thus cutting costs.
- some maritime jobs may be lost and older Jones Act ships retired from service.

Studies by others like the Heritage Foundation and the Department of Energy have provided specific dollar estimates of the net benefits to the nation. Most analysts conclude that freer markets, the opportunity to export, and the resulting competition for crude oil will improve the oil exploration, production, and delivery system for the benefit of the majority of U.S. citizens.

Balance of Payments and Foreign Policy

Lifting the ban on crude oil exports not only enhances competition in PAD 5 crude oil markets but provides our nation's government with foreign policy and trade policy opportunities, while improving our balance of payments. This statement is especially true with regard to Alaskan natural gas resources, which will not be used unless export markets are developed for it.

Export of crude oil or natural gas as LNG from PAD 5 to Japan has a number of positive characteristics:

1. reduce our balance of payments deficit with Japan while encouraging the creation of new jobs associated with oil exploration and development, and production of PAD 5 resources.
2. provide our strong Asian/Pacific Rim ally with a secure source of world-priced crude oil or LNG, while enhancing the development of U.S. hydrocarbon reserves.
3. U.S. oil or LNG exports to Japan are likely to back out some of Japan's Iranian imports, which may cause Iran to find another market or to try to discount its price. Because the oil volumes are likely to be fairly small, no significant effect is likely on OPEC oil prices.
4. improve trade opportunities with Japan for other PAD 5 products, like foodstuffs.

5. open up oil exchanges with Japan - i.e. the U.S. exports to Japan and takes a similar amount of oil committed to Japan from Mexico, thus reducing oil transportation costs to U.S. consumers and supporting Mexico's oil industry as well as her economy.

Of course, the State Department and the Commerce Department can expand on the benefits mentioned above, given their expertise on foreign policy, trade issues, and the relationships between the two.

The Environmental Protection Agency should also be interested in such oil exchanges and trading because the less refining of heavy, sour crudes done in California, the cleaner the environment in that state. The same applies, of course, to the Gulf Coast. Inefficient oil transportation systems and long hauls also increase the risk of environmental pollution.

National Security

Petro-Lewis believes that lifting the ban on crude oil exports would not impair national security. The U.S. is not energy self-sufficient. Even in the depths of the last recession in 1982 with oil prices at highs of $28 -$30 /B, the U.S. still required imports of crude and petroleum products to meet significantly reduced demand. It is highly unlikely that the U.S. will ever be self-sufficient in the future. Even if conservation increased tremendously, new citizens are born every day and will require energy to maintain their living standards.

So oil imports will be necessary now and in the future, but the source of those imported supplies may be more or less secure. Are Mexican supplies preferable to Middle Eastern supplies for security reasons? At least Mexican crude has a far less distance to travel and certainly competitive economics, especially if you consider our loan involvement with that country's economy and our concerns with Communist revolutions in Central American countries that border Mexico.

Embargoes have not been effective economic weapons of war in the past (1973 when OPEC tried it or 1981 when the U.S. tried it against Iran), largely because oil, like other commodities, is fungible - i.e. easily exchanged or transhipped or acquired from another source area. We don't expect that they would be effective in the future.

Any disruption in the world oil market that significantly reduced available supplies relative to demand would raise world oil prices. The U.S. does not set the world price because it is not the marginal supplier of oil, OPEC is. Domestic prices would increase during any disruption along with world prices, and there is no way that the federal government could prevent that. It is price that would largely ration the available oil supply for use in various economic sectors like industry and transportation.

The IEA agreements and the Strategic Petroleum Reserve (SPR) were designed as public programs to share available oil supplies with our allies during an emergency. Private stocks would also act as a reserve for corporate uses. The SPR is designed to provide 90 days supply if all oil imports were cut off. If only Mideast imports were lost, the SPR could probably last another couple of months. Private stocks could add another 2 - 4 weeks' supply. Under these programs, oil would probably have to be exported to Western Europe or Japan during an emergency. The Jones Act fleet would be far less efficient at moving oil to those destinations than the larger and speedier VLCC's or LR1's now operated under foreign flags. And it is likely that Europe or Japan would use their own flag vessels to do the long-distance shipping during any emergency.

Consumer Interests

Petroleum product prices paid by consumers in PAD 5 are not likely to rise if the opportunity to export crude oil is permitted. Refiner profit margins might be squeezed but the majors' profits will be most negatively impacted in their transportation divisions. The dollars per barrel lost at the wellhead are now recouped by the major integrated oil companies in shipping such long distances in their own Jones Act tankers. With the opportunity to export, competition for crude oil will force the majors to pay a little more at the wellhead. Then the majors will have an incentive to reduce transportation costs in order to protect their refinery profits while competing for the consumers' retail dollar in the regional market. Since the export volumes are likely to be small, this transition to more competition at the wellhead will take a number of years to work out. Nonetheless, we believe that changing the Export Administration Act now is worth the effort of creating incentives for more efficient economic behavior in the future.

In order to minimize consumer costs for petroleum products, the oil industry's transportation/marketing system would have to be altered. This requires dropping the Jones Act, improving American harbors to handle larger and more efficient ships, and changing the tax incentives on wellhead production and shipping. Obviously, this requires a lot more change in government policy than just the Export Administration Act, which is the limited scope of this testimony.

Prices for petroleum products in California, the Gulf Coast, and East Coast tend to converge because large price differences encourage supplies to be shipped to the region with higher prices. Only very long distances and transportation systems isolate some inland markets from major refining areas. These isolated markets may experience either higher or lower prices than average depending on the competitive situation among refiners serving those markets.

Nonetheless, West Coast consumers who have historically paid more for gasoline than Gulf Coast consumers, are likely to see no increase in their costs from more wellhead competition for crude oil.

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EXHIBIT A

NORTH SLOPE WELLHEAD PRICES FOR CRUDE

$
32-35.50
FOR WEST
TEXAS INTERMEDIATE
(40°API) CRUDE

		Average Wellhead Price	Royalty Price*
1982 -	March	$17.80/B	$18.98/B
	April	17.96	19.01
	May	18.36	19.14
	June	19.48	20.87
	July	19.93	20.87
	August	19.78	21.06
	September	19.81	20.82
	October	19.70	20.83
	November	19.44	20.30
	December	18.81	19.64
1983 -	January	17.88	18.78
	February	16.99	17.78

$
30-32.00
FOR W. TEXAS
INTERMEDIATE
CRUDE

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* Exhibit B price, State of Alaska monthly report on the Prudhoe Bay Unit.

EXHIBIT B

POSTED PRICE PER BARREL OF PETROLEUM AT WELLS, BY GRADES

(YEARLY AVERAGE)

Year	Alaska Cook Inlet 30° - 30.9° Gravity	Mid-Continent Oklahoma Kansas 36° - 36.9° Gravity	California Long Beach 27° - 27.9° Gravity	West Texas 30° - 30.9° Gravity	East Texas 38 - 38.9° Gravity
1918	$ ...	$ 2.20	$	$ ...	$ ...
1919	...	2.28	1.20	...	...
1920	...	3.42	2.01	...	...
1921	...	1.68	1.80	...	...
1922	...	1.40	1.42	...	...
1923	...	1.47	0.82	...	...
1924	...	1.47	1.12	...	...
1925	...	1.87	1.44	...	...
1926	...	2.13	1.49	1.17	...
1927	...	1.30	1.09	0.76	...
1928	...	1.31	1.01	0.82	...
1929	...	1.37	1.10	0.83	...
1930	...	1.23	1.20	0.77	...
1931	...	0.63	0.83	0.39	0.56
1932	...	0.89	0.88	0.60	0.95
1933	...	0.62	0.69	0.44	0.65
1934	...	1.00	1.00	0.85	1.00
1935	...	1.00	0.89	0.75	1.00
1936	...	1.10	1.06	0.78	1.18
1937	...	1.21	1.10	0.87	1.31
1938	...	1.18	1.10	0.85	1.29
1939	...	1.02	1.10	0.75	1.10
1940	...	1.02	1.04	0.75	1.10
1941	...	1.12	1.11	0.86	1.20
1942	...	1.17	1.15	0.82	1.25
1943	...	1.17	1.15	0.82	1.25
1944	...	1.17	1.15	0.82	1.25
1945	...	1.17	1.15	0.82	1.25
1946	...	1.37	1.23	1.11	1.44
1947	...	1.90	1.85	1.63	1.98
1948	...	2.57	2.43	2.22	2.65
1949	...	2.57	2.40	2.32	2.65
1950	...	2.57	2.37	2.32	2.65
1951	...	2.57	2.41	2.32	2.65
1952	...	2.57	2.41	2.32	2.65
1953	...	2.71	2.72	2.46	2.79
1954	...	2.82	2.76	2.57	2.90
1955	...	2.82	2.76	2.57	2.90
1956	...	2.82	2.76	2.57	2.90
1957	...	3.07	3.17	2.82	3.25
1958	...	3.04	3.11	2.62	3.25
1959	...	2.97	2.90	2.67	3.25
1960	...	2.97	2.74	2.65	3.25
1961	...	2.97	2.74	2.65	3.20
1962	...	2.97	2.74	2.65	3.10
1963	...	2.97	2.74	2.65	3.10
1964	...	2.93	2.74	2.65	3.10
1965	...	2.92	2.74	2.65	3.10
1966	...	2.90	2.74	2.78	3.11
1967	...	3.03	2.74	2.80	3.11
1968	2.40	3.10	2.74	2.80	3.16
1969	2.56	3.23	2.90	2.93	3.32
1970	2.61	3.29	2.96	2.97	3.40
1971	2.90	3.52	3.19	3.22	3.60
1972	2.80	3.32	3.19	3.25	3.60
1973					
Old Oil	3.11	3.91	3.53	3.66	3.95
New Oil²	5.76	6.71	6.14	6.48	6.66
1974					
Old Oil	4.41	5.12	4.79	5.00	5.30
New Oil²	9.47	10.45	8.76	10.11	10.38
1975					
Old Oil	4.41	5.12	4.79	5.00	5.30
New Oil²	10.83	12.00	11.14	11.90	12.37
1976					
Lower Tier	4.95	5.22	4.86	5.10	5.30
Upper Tier	10.10	12.02	10.49	11.39	11.74
1977					
Lower Tier	4.48	5.19	4.82	5.16	5.27
Upper Tier	9.90	11.70	9.94	10.86	11.29
1978					
Lower Tier	4.87	5.56	5.13	5.43	5.63
Upper Tier	10.35	12.67	10.86	11.86	12.40
1979					
Lower Tier	5.50	6.01	5.96	5.88	6.06
Upper Tier	11.84	13.67	12.15	12.84	13.29
1980					
Lower Tier	6.06	6.22	6.52	6.41	6.60
Upper Tier	13.02	14.83	13.32	14.11	14.56
1981¹	32.35	36.15	27.88	38.00	36.23

¹ Estimated.
² Prices apply to Lower Tier, Upper Tier, and uncontrolled oil.

AUTHORITY: "WORLD OIL"
COMPANY CRUDE OIL PRICE BULLETINS

Source: DeGolyer and MacNaughton, 20th Century Petroleum Statistics (1982)

Exhibit C

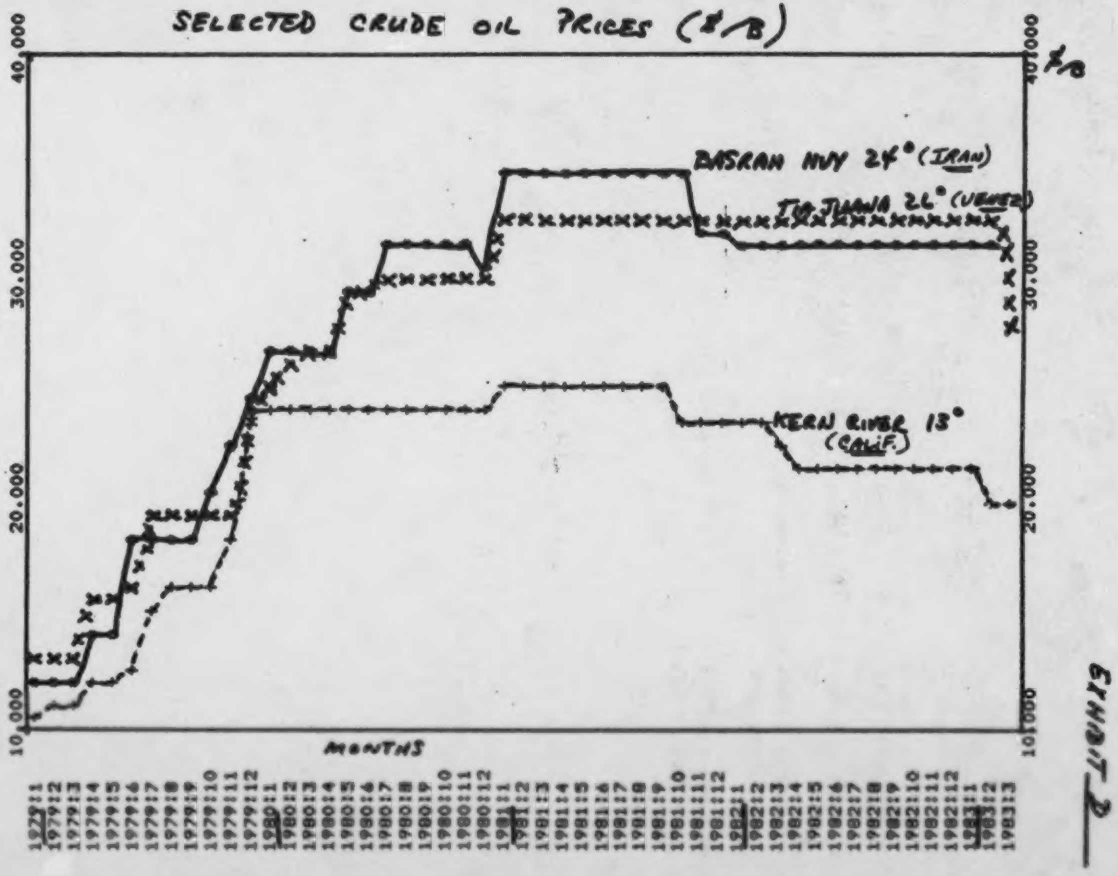
SELECTED CRUDE OIL PRICES AT MARKETS

Alaskan crude on the Gulf Coast (27° API)	$28.00
West Texas sour (30° API) on the Gulf Coast	28.50
California crude at Long Beach (27° API) - Chevron Signal Hill	24.50
Iranian heavy (31° API) - FOB Persian Gulf - spot market	27.00

note: These are April 1983 refiner postings.

SRC: PLATTS OILGRAM

SELECTED CRUDE OIL PRICES ($/B)



SERIES/VECTOR	MINIMUM	MAXIMUM	SYMBOL
COSPS0CAM02 BELRIDGE SO., MOBIL	10.300	25.300	*
COSPS0CAM016 KERN RIVER, MOBIL	10.380	25.300	+
COTJM260C299 TIA JUANA 26°	13.360	32.880	X
COBSH0C433 BASRAN HVY 24°	11.920	34.650	◆

EXHIBIT D

EXHIBIT E

Little growth seen in U.S. flag tanker demand

The outlook for U.S. flag tankers is one of little growth in demand late in the 1980s.

A bright spot ahead for tankers, however, will be increasing need to move U.S. West Coast crude cargoes during the following decade.

"West Coast crude movements, which now account for nearly 60% of U.S. flag tanker tonnage, should play an even more dominant role in the 1990s," predicts Frank J. Iarossi, president of Exxon Shipping Co.

"The future of the U.S. tanker fleet rests mainly with the petroleum industry's search for oil reserves off the coasts of California and Alaska," he said.

Iarossi's comments came during the annual offshore industry conference in Houston, sponsored by Texas A&M University's Sea Grant College Program.

U.S. tanker outlook. Future oil production off California and Alaska could lead to increased demand for tankers.

A major challenge will be to find the best combination of terminals and vessels to move Alaskan crude.

But the remainder of the 1980s will not be a bright period for operators of U.S. flag tankers.

The oil potential off California is high, and tankers could play a significant role in transporting the crude via the Panama Canal or offloading crude on the Pacific side for shipment through the trans-Panama pipeline to the Atlantic side.

As North Slope production declines, so will the need for tankers to move crude from Valdez south to market.

Iarossi said in the 1990s tonnage levels will be maintained only if significant new discoveries occur in areas near Prudhoe Bay and in the Bering Sea region.

In the Gulf of Mexico, vessel requirements are not expected to be large, but there could be increased demand for shuttle tankers and storage/treatment tankers, especially for oil and gas produced from water depths of 1,000-2,000 ft.

Disposition of U.S. flag tankers

First quarter 1983

	No.	DWT (1,000)
Subsidized tankers*		
In crude service	19	2,106
Chartered to MSC	3	108
In lay up	7	1,603
Total	29	3,817
Jones Act tankers† (8'700 [illegible])		
In crude service	76	6,592
In product service	112	3,756
In lay up	30	891
Total	218	11,239
Total U.S. flag	247	15,056

*Vessels constructed under construction differential subsidy loans from the Maritime Administration for foreign trade. †Vessels constructed without subsidy for U.S. coast-wide trade.

Source: Exxon Shipping Co.

International market. Iarossi said the international tanker market has been in a protracted slump since the mid-1970s, with 30-50% of the world's tanker fleet idle or underutilized during the past 7-8 years.

"Because U.S. construction costs are two to three times that of foreign construction, and U.S. crew costs are three to four times that of foreign crews, it's difficult to envision U.S. flag tankers competing in this environment.

"With the expected decline in tanker requirements for the Strategic Petroleum Reserve, it is safe to assume that U.S. flag tankers will not have a meaningful role in future international trade unless mandated otherwise by federal legislation."

Jones Act tankers. So-called Jones Act tanker deadweight tonnage mushroomed in the 1970s as larger vessels, suitable for Alaskan crude movements, were built and older, smaller tankers were retired.

But Iarossi said the 1980s have proved to be different, with scrappings of older tankers continuing at a rapid pace.

The last commercial contract concluded for a new tanker was by Exxon in April 1981.

The existing fleet likely will be capable of meeting requirements for the remainder of the decade.

During first quarter 1983 there were 76 Jones Act tankers in crude service, mainly moving Alaskan North Slope crude.

Most Jones Act tankers, however, were in products service.

About one-third of U.S. subsidized tankers are either laid up or chartered to the Military Sealift Command. The remainder is in crude service.

Iarossi said one notable trend has been significant decreases in tanker movements between major U.S. refining and crude oil centers along the Gulf Coast and major petroleum products markets located along the East Coast.

"In 1971, domestic crude production along the Gulf Coast began to decline, and with it demand for U.S. tankers to move excess Gulf Coast crude to East Coast refineries. Today this trade, once more than 25% of our tanker movements, has essentially disappeared."

In addition, demand for petroleum products decreased, while the number of products pipelines increased. Iarossi said tanker demand to move products cargoes from the gulf to the East coast is less than 50% of what it was 20 years ago. •

EXHIBIT F

TRANSPORTATION CHARGES

From	To	Fee/B
Well	Pump station #1	67¢
Pump station #1	Valdez	$5.75 - 6.50
Valdez	L.A. Basin	$1.50
Valdez	Gulf Coast of US	$3.50 - $4.50
Venezuela	Gulf Coast (via LR1) of US	60¢
Saudi Arabia	Gulf Coast of US	$1.50 - 1.70
Iran	Japan	$1.50
Valdez	Japan	$1.50 - 3.50*
Nigeria	Gulf (via VLCC)	40¢

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* Depending on ship size and registry

	Fee/B (AFRA) Ras Tanura to NY (via the Cape)
VLCC = 160,000 - 319,999 tons DW	$1.58
ULCC = 320,000 - 549,999 tons DW	$1.34
LR1 = 45,000 - 79,999 tons DW	$3.20
LR2 = 80,000 - 159,999 tons DW	$2.26
Jones Act tanker = about 30,000 tons	

AFRA = weighted average freight rate assessments in $/B for 34° API gravity crude, of all charters in force (including spot, consecutive and time charter

Source: Platts Oilgram
Hudson Institute
Petro Lewis internal data

Spot Charter Rates For Tankers

TANKERS—A recent pick-up in spot tanker activity—particularly out of Nigeria—is doing little to lift freight rates off the bottom. With more than 40 VLCCs awaiting cargoes off the Gulf, even further increases in Opec output are unlikely to firm the market (PIW April 25,p.6). Meanwhile, the Iranian oil slick continues to have no perceptible impact on Gulf tanker rates or movements.

Mainly due to chronically poor trading conditions, tanker lay-ups jumped to an all-time high in April of 81.8-million tons, while some 2.6-million tons were sold for scrap. Scrappage is running about level with last year's rate. Vessels used for floating storage slipped by 2.5-million tons.

Following are spot charter rates as supplied by Howard Houlder and per-barrel freight costs calculated by PIW.

Average Spot Rates:	April	March	April'82
Up to 24,999 tons	157.7	139.3	126.6
To 44,999	116.2	108.7	101.2
To 79,999 (LR-1)	69.2	62.8	56.8
To 159,999 (LR-2)	39.2	42.3	40.8
To 319,999 (VLCC)	22.3	24.3	20.9
320,000 and up	...	...	...
Average All Sizes	55.4	55.7	45.8

Spot freight for key light crudes ($/barrel):

Voyage	Vessel	May	April
Arab Lt.-N.Europe	VLCC	$0.69	$0.65
Arab Lt.-Japan	VLCC	0.49	0.49
Nigeria-US Gulf	VLCC	0.40	0.38
UK Brent-US Gulf	LR-2	0.66	0.58
Venezuela-US Gulf	LR-1	0.60	0.62
Libya-Italy	LR-1	0.42	0.45
Indonesia-Singapore	LR-2	0.10	0.12

Source: Petroleum Intelligence Weekly (5/23/80)

Exhibit H

Selected Netback Prices for Producers
($/B)

Case 1:

ANS crude delivered to the Gulf Coast	= $ 28.00
- TAPS charge	6.75
- field pipeline charge	.67
- shipping charge (U.S. flag vessel)	4.50
Netback price to the wellhead producer (This price is the basis for WFPT and state taxes as well as royalties)	= $ 16.08

Case 2:

ANS crude oil market price to Japan (Iranian Heavy less shipping to Japan)	= $ 27.00
- TAPS charge	6.75
- field pipeline charge	.67
- shipping charge (foreign flag vessel)	.75
Netback price to wellhead producers	= $ 18.83

Case 3:

California crude to Japan (18-27° API) (Mexican crude less shipping to Japan)	= $ 24.00
- TAPS Charge	
- field pipeline	
- Shipping	1.15
Netback price to wellhead producer	= $ 22.85

NOTE: California light crude (27° API or more) sells for $ 24.50/B but heavier grades (18-27° API) now sell for $21-22/B

[April postings]

EXHIBIT J

UNITED STATES—Alaska estimates that exports of North Slope crude to Japan would add $1.50 to $5.00 a barrel to the wellhead value of the oil sold (PIW Jan.10,p.12). The wide range mainly reflects varying freight costs and combinations of foreign flag and US vessels. Transport costs from Valdez to Yokohama range from 63¢ to $1.95 a barrel for foreign flag and US ships. This compares with an average $4.52 for moving crude from Valdez to the Gulf Coast. Delivered crude prices to Japan are estimated at $26 to $28.25, with $27 considered most realistic. Recent wellhead values are around $17.

But despite the economics, the Alaska Revenue Dept. report concludes that exports are likely to remain blocked for US domestic political reasons (PIW May 9,p.4). If approved, exports would probably be 100,000 to 200,000 b/d, yielding state tax revenues of $50- to $100-million yearly.

Source: Petroleum Intelligence Weekly (5/23/83)

EXHIBIT K

GROSS PROFIT MARGINS
for
Representative Refiners
(Before taxes, $/B)

Case 1: California refiners in Los Angeles, using Alaskan crude oil

Gasoline price (ex. taxes) in Los Angeles = $41.92/B
- Crude oil cost, delivered to Long Beach = 25.25/B

Gross Profit Margin on gasoline $16.66/B
(this must cover operating expenses and return on investment)

Case 2: Gulf Coast refiners in Houston using Alaskan crude oil

Gasoline price (ex. taxes) in Houston = $42.55/B
- Crude oil cost, delivered to the Gulf = 28.00/B

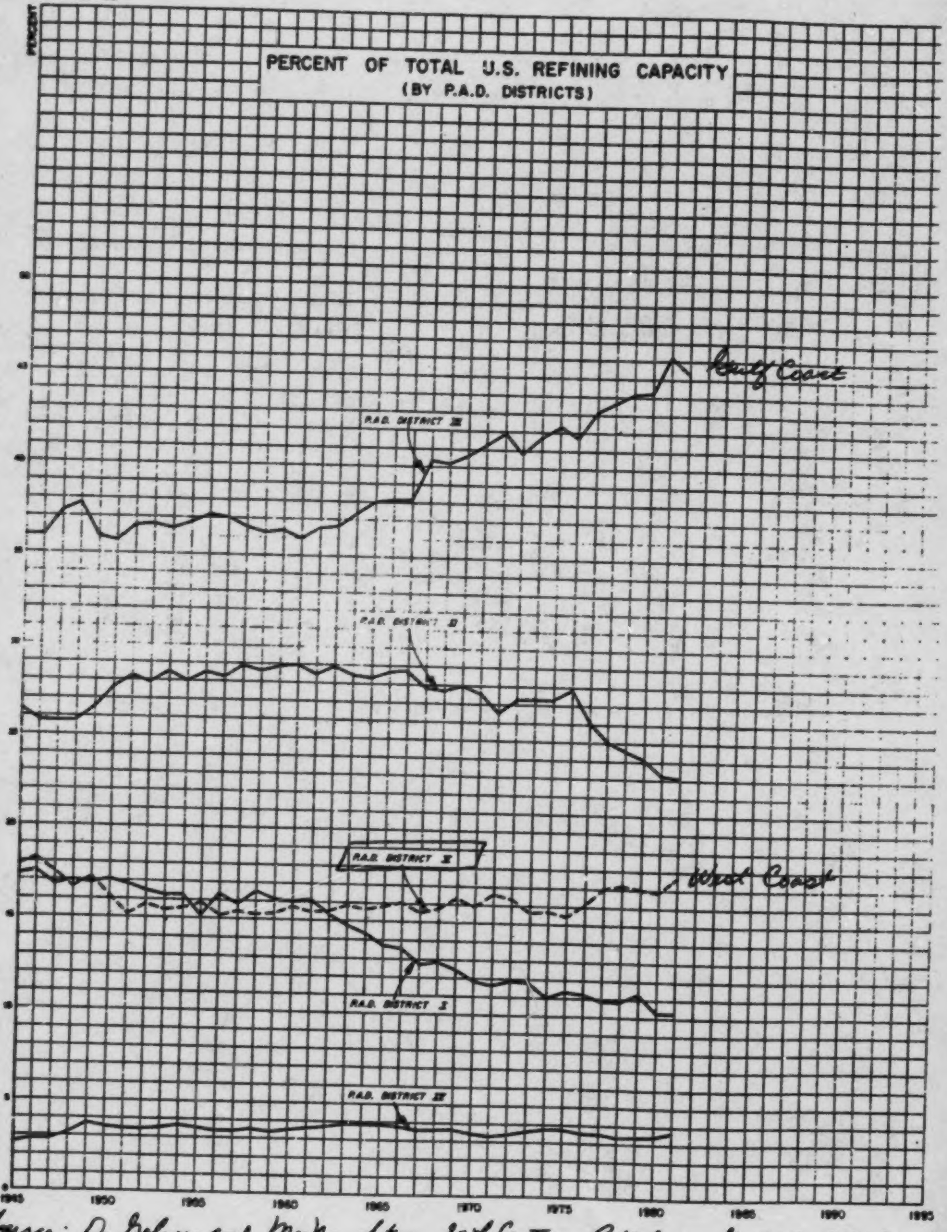
Gross Profit Margin on gasoline $14.55/B

Data Sources:
- April 18, Oil and Gas Journal, p. 217, gasoline prices
- April refiner postings, Petro-Lewis data

NOTE: These gross profit margins are for gasoline only, the highest retail-value product made. Refiners also sell distillate and residual fuel oil which carry lower gross profit margins. Total refiner margins are a composite of gasoline, distillate and residual fuel margins, weighted by volumes of product sold.

EXHIBIT L

CHART NO. 52



PERCENT OF TOTAL U.S. REFINING CAPACITY
(BY P.A.D. DISTRICTS)

Source: De Golyer and MacNaughton, 20th Century Petroleum Statistics (1982)

EXHIBIT M

API refinery report—April 8, 1983

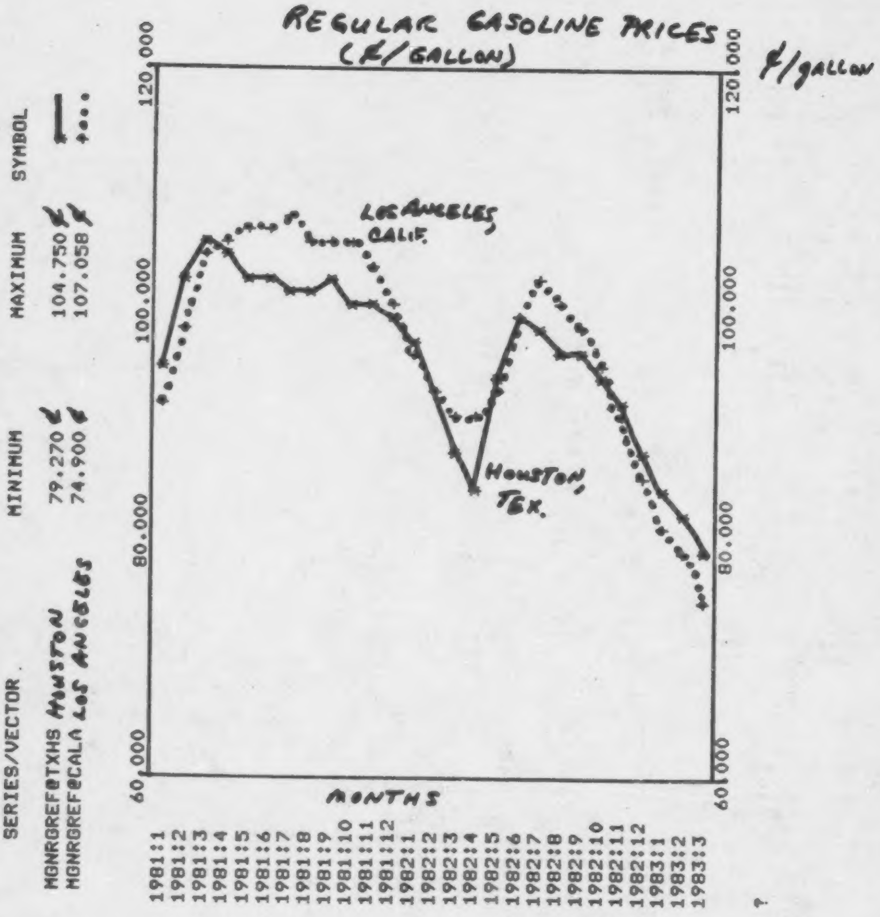
District	Refinery operations (Thousands of barrels daily)					Refinery output (Thousands of barrels daily)						
	Total refinery input	Crude runs	Input to crude stills	Operable capacity	% operated	Motor gasoline Total	Motor gasoline Leaded*	Motor gasoline Unleaded*	Jet fuel Naphtha	Jet fuel Kero	Fuel oils Distillate	Fuel oils Residual
East coast	1,248	967	996	1,569	63.5	590	281	309	2	33	190	118
App. Dist. 1	76	74	74	98	75.5	29	19	10	1	—	17	5
Dist. 1 total	1,324	1,041	1,070	1,667	64.2	619	300	319	3	33	207	123
App. Dist. 2	51	47	51	66	77.3	32	15	17	2	5	8	1
Ind., Ill., Ky.	1,865	1,764	1,774	2,399	74.0	1,122	508	614	17	121	302	94
Minn., Wis., Dak.	270	258	264	293	90.1	156	97	59	4	6	57	6
Okla., Kan., Mo.	665	571	585	858	68.2	381	248	133	7	26	146	11
Dist. 2 total	2,851	2,640	2,674	3,616	74.0	1,691	868	823	30	158	513	112
Inland Texas	537	463	485	592	81.9	219	114	105	25	27	104	12
Texas Gulf coast	2,980	2,700	2,796	4,164	67.2	1,340	436	904	35	182	563	203
La. Gulf Coast	2,092	1,844	1,902	2,748	69.2	1,073	478	595	9	230	279	172
N. La. and Ark.	188	166	181	314	57.6	71	25	46	4	—	47	10
New Mexico	92	79	83	117	70.9	23	17	6	12	1	22	3
Dist. 3 total	5,889	5,252	5,447	7,925	68.7	2,726	1,070	1,656	85	440	1,015	400
Dist. 4 total	398	380	374	583	[illegible]	[illegible]	108	116	11	17	107	8
Dist. 5 total	2,129	1,998	2,014	3,093	65.3	[illegible]	426	884	35	233	[illegible]	[illegible]
Apr. 8, 1983	12,590	11,308	11,679	16,854	68.7	6,182	2,764	3,418	167	881	2,131	1,037
Apr. 1, 1983†	12,717	11,179	11,614	16,864	68.3	6,320	2,923	3,397	185	860	2,119	[illegible]
Apr. 9, 1982	12,813	11,300	11,768	17,482	66.9	5,827	NA	NA	218	887	2,400	1,073

*Included in total motor gasoline. †Revised.
Programmed by I.P. Sharp Associates

236 Oil & Gas Journal, Apr 18, 1983

EXHIBIT N

REGULAR GASOLINE PRICES (¢/GALLON)



SRC: PLATTS OILGRAM

EXHIBIT O

Section VI
Table 12d

AVERAGE U.S. RETAIL GASOLINE PRICES[1] FOR SELECTED CITIES
(Cents per gallon)

	1979		1980	
	Total Gasoline Taxes[2]	Service Station Price (Including Taxes)	Total Gasoline Taxes[2]	Service Station Price (Including Taxes)
Average U.S.	13.46	87.79	14.37	121.72
Alabama, Birmingham	12.00	86.54	13.98	120.25
Arizona, Phoenix	12.00	86.08	12.00	120.32
Arizona, Tucson	12.00	86.04	12.00	118.60
California, Bakersfield	16.21	91.96	18.14	126.14
California, Fresno	16.21	91.97	18.13	125.90
California, Los Angeles	16.19	91.58	18.07	124.84
California, Sacramento	16.22	92.16	18.16	126.47
California, San Diego	16.18	91.80	18.15	126.32
California, San Francisco	16.20	91.82	18.15	126.39
California, Stockton	16.18	91.58	18.10	125.35
Colorado, Denver	11.00	86.73	11.00	121.27
Connecticut, New Haven	15.00	87.85	15.00	123.80
District of Columbia	13.29	88.10	14.17	124.06
Florida, Miami	12.00	85.31	12.00	120.94
Florida, Tampa/St. Pete	22.00	86.78	12.00	121.33
Georgia, Atlanta	14.63	88.92	16.02	125.18
Idaho, Boise	13.50	89.86	13.50	122.17
Illinois, Chicago	19.83	94.34	21.12	130.39
Indiana, Indianapolis	15.41	88.71	17.04	124.40
Iowa, Des Moines	13.25	89.00	14.00	124.41
Kentucky, Louisville	13.00	86.42	13.00	119.88
Louisiana, New Orleans	12.00	86.70	12.00	120.90
Maryland, Baltimore	13.00	85.09	13.00	121.51
Massachusetts, Boston	12.50	85.35	13.11	119.82
Michigan, Detroit	16.12	92.00	19.50	128.00
Nebraska, Omaha	13.82	90.35	14.96	124.49
Nevada, Las Vegas	12.00	88.27	12.00	122.29
New Jersey, Newark	12.00	85.86	12.00	120.03
New Mexico, Albuquerque	11.00	86.10	11.50	119.65
New York, Long Island	17.82	92.30	19.73	126.10
New York, Rochester	17.29	88.83	19.70	125.72
Minnesota, Minneapolis	13.00	90.52	14.38	124.27
Missouri, Kansas City	11.00	88.91	10.98	118.90
Missouri, St. Louis	11.00	86.70	11.00	119.28
North Carolina, Charlotte	13.00	84.54	13.00	122.22
Ohio, Cincinnati	11.00	88.06	11.00	118.28
Oregon, Portland	12.00	86.86	12.00	119.26
Pennsylvania, Philadelphia	13.97	86.96	15.00	122.94
Pennsylvania, Pittsburgh	13.97	87.13	15.00	122.44
Tennessee, Memphis	11.00	87.19	11.00	121.90
Texas, El Paso	9.00	81.98	9.00	115.05
Texas, Houston	9.00	81.61	9.00	117.81
Utah, Salt Lake City	13.00	88.36	13.00	121.66
Virginia, Norfolk	13.00	86.11	14.01	122.84
Wisconsin, Milwaukee	11.00	85.81	12.37	120.39
Washington, Seattle	15.51	88.53	16.00	122.30
Washington, Spokane	15.51	89.14	16.00	123.34

→ cheaper than Los Angeles prices during Entitlement Program

Note:
The source and list of selected cities for this table has changed. Table 12e, which follows, gives present data.

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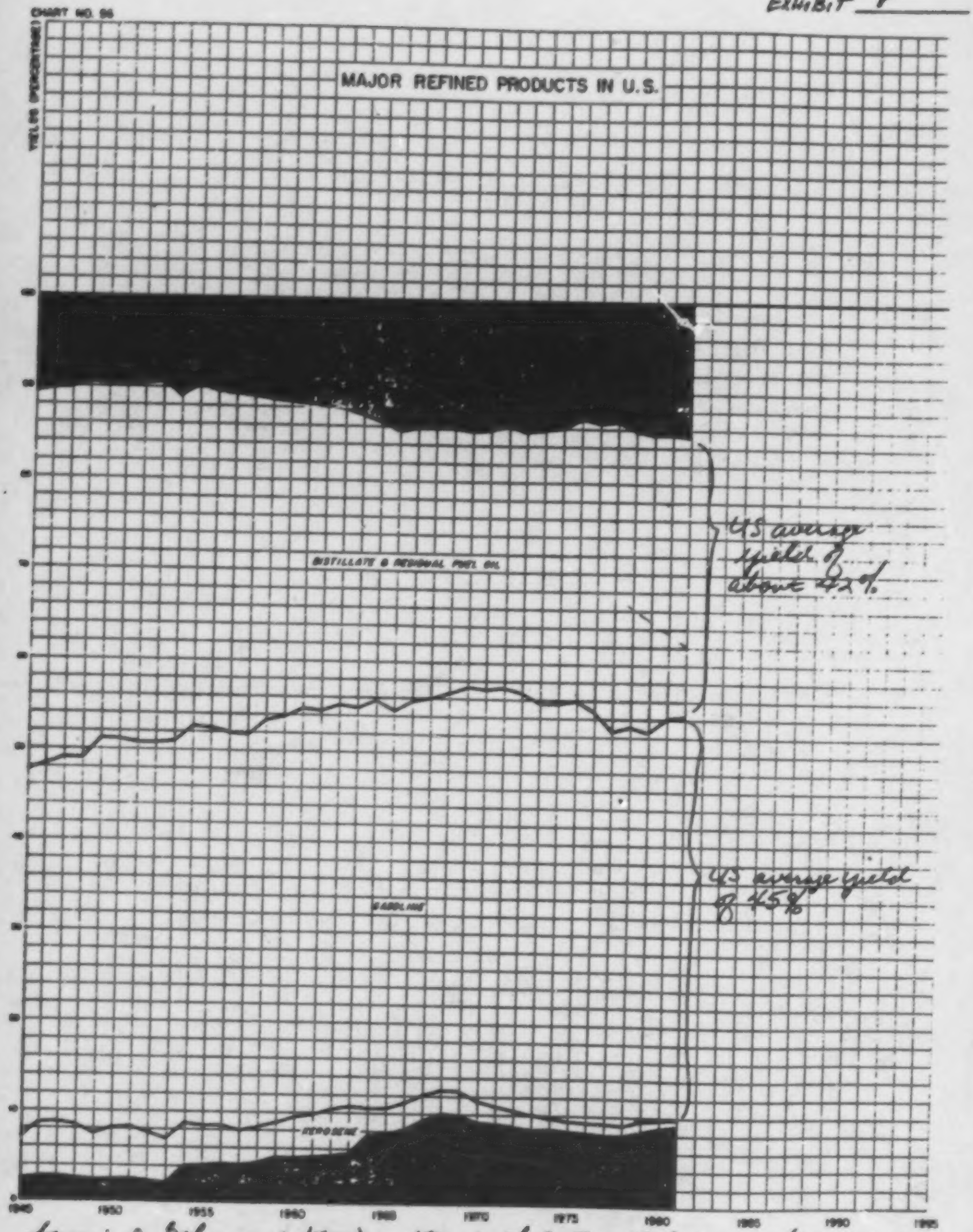
[1] Regular grade gasoline at full service stations. Average differential between regular leaded and regular unleaded was 4.17¢/gal.

[2] Federal, state and local

Source: Platt's/Lundberg Summary taken from Platt's Oil Price Handbook and Oilmanac

September 1981

EXHIBIT P



US average yield of about 42%

US average yield of 45%

Source: De Golyer and MacNaughton, 20th Century Petroleum Statistics (1982)

EXHIBIT 9

RECENT US CRUDE OIL PRODUCTION
(Mill. B/D)

Alaska	1.7
California light	.4
California heavy	.7
Sweet & condensate (lower 48 states)	3.5
Sour	2.3
	8.6

% DISTRIBUTION

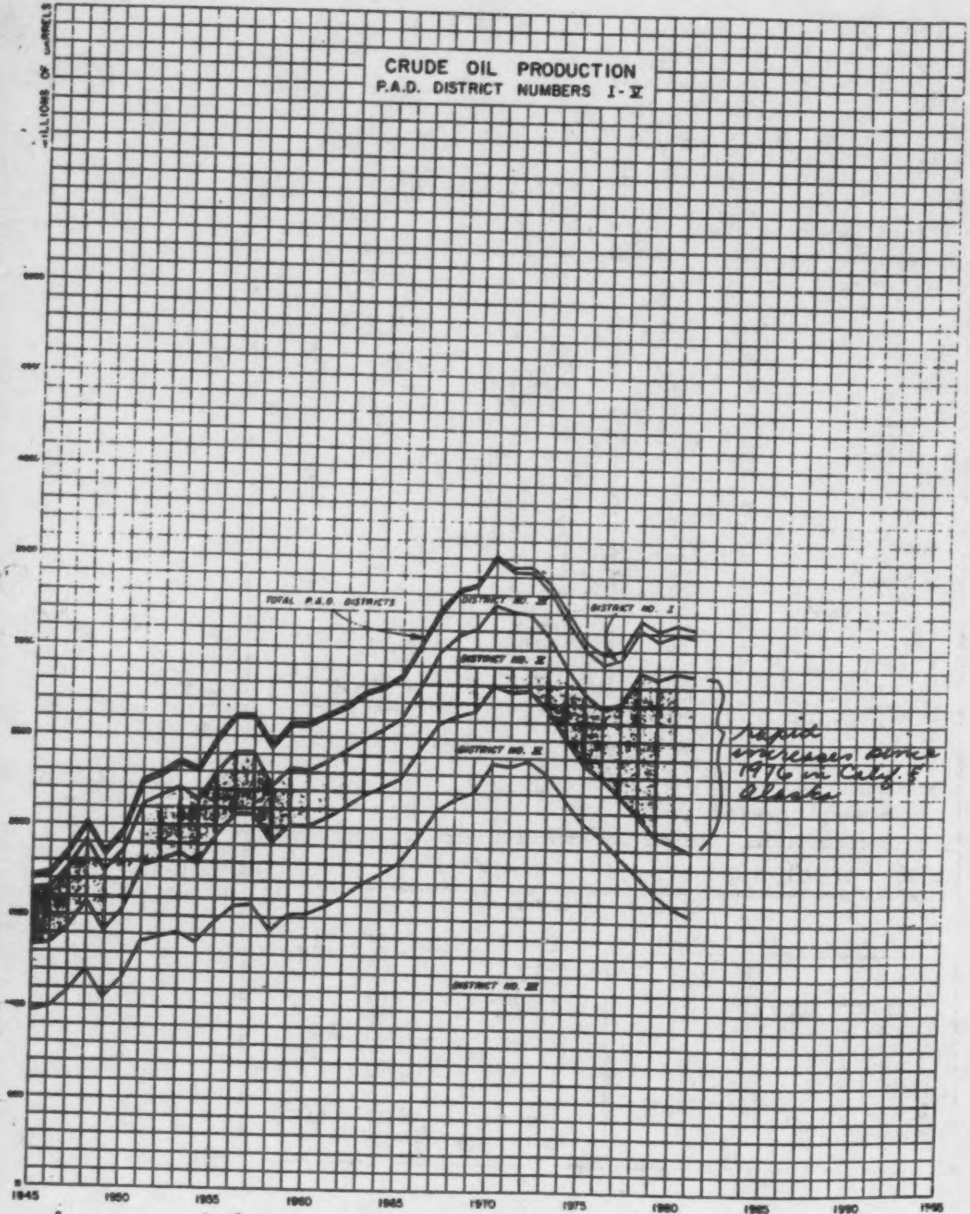
Alaska	20
California	12
Sweet & condensate (other, lower 48 states)	41
Sour	27
	100%

[For PLC and its limited partners, our Alaskan production is less than 5% of our total output.]

1983 DATA (APRIL)

EXHIBIT R

CHART NO. 26



rapid increases since 1976 in Calif. & Alaska

Source: De Golyer and MacNaughton, (1982) 20th Century Petroleum Statistics

EXHIBIT 5

Drilling Activity and Production:

Hughes rig count

	4-12-83	4-12-82	
Alabama	17	17	
Alaska	15	22	(32%)
Arkansas	30	31	
Arizona	1	2	
California	89	143	(38%)
Land	65	120	(46%)
Offshore	24	23	
Colorado	39	61	
Florida	4	5	
Illinois	33	44	
Indiana	4	6	
Kansas	60	179	
Kentucky	9	11	
Louisiana	277	384	(28%)
North	21	57	
S. Inland Waters	47	67	
S. Land	70	125	
Offshore	139	135	
Maryland	0	0	
Michigan	13	21	
Mississippi	37	43	
Montana	12	45	
Nebraska	12	15	
New Mexico	59	121	
New York	3	10	
North Dakota	21	70	

	4-11-83	4-12-82	
Ohio	17	35	
Oklahoma	250	853	
Pennsylvania	10	21	
South Dakota	1	2	
Texas	704	1,119	(37%)
Offshore	48	66	
Inland Waters	9	13	
Dist. 1 & 4	86	152	
Dist. 2 & 3	112	174	
Dist. 5 & 6	97	142	
Dist. 7B & 9	121	157	
Dist. 7C ,8 & 8A	192	312	
Dist. 10	39	83	
Utah	27	43	
West Virginia	18	40	
Wyoming	68	153	
Others—Hi.-1, Va.-2 Wash.-1,	4	13	
Total U.S.	1,834	3,609	(48%)

In 1981, 3474 rotary rigs were running in the U.S.

Programmed by I.P. Sharp Associates

OGJ production report (U.S.A.)

Crude oil and lease condensate
(1,000 b/d)

	4-8-83*	4-8-82†
Alabama	55	54
Alaska	1,705	1,720
California	1,113	1,086
Colorado	82	86
Florida	62	76
Illinois	78	61
Kansas	195	200
Louisiana	1,262	1,229
Michigan	87	86
Mississippi	88	93

	4-8-83*	4-8-82†
Montana	83	85
New Mexico	195	199
North Dakota	135	123
Oklahoma	428	415
Texas	2,519	2,540
Utah	67	64
Wyoming	335	358
All others	172	168
Total	8,660	8,643

*OGJ estimate. †Revised

Source: Oil and Gas Journal

EXHIBIT T

DIVISION OF INTEREST - PRUDHOE BAY UNIT

Company	% of Production
Sohio	44
Arco	25
Exxon	25
	94

All others, including PLC = 6%.

Mobil	2
Phillips	2
Chevron	1
Getty	1
Amerada Hess	1
Petro-Lewis	0.1
Marathon	0.05
Louisiana Land	0.04
BP - Alaska*	0.01

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* Owns an interest in Sohio.

EXHIBIT U

MONTHLY PRODUCTION - PRUDHOE BAY UNIT
March 1983

	Gross Barrels	Net Barrels*
Sohio (operator)	21,303,305	20,356,522
Arco	12,103,816	11,512,919
Exxon	12,100,276	11,509,520
Mobil	1,000,350	956,838
Phillips	977,218	934,718
Chevron	378,127	361,479
Getty	259,360	248,127
Amerada Hess	254,393	243,375
Petro-Lewis	65,109	62,289
Marathon	23,601	22,579
Louisiana Land	18,803	17,989
BP - Alaska	2,648	2,543
	48,487,007 (1.6 mill B/D)	46,228,898 (1.5 mill B/D)

* Net of state royalties; load diesel, FFGUFDL, including offtake.

EXHIBIT V

TAXES ON NORTH SLOPE CRUDE OIL

State of Alaska royalty = 12.5%
2½ - 5% of the royalty is paid in kind (wet barrels) and the remainder in cash (bbls x royalty* price)

State Severance Tax = 15% of gross value after payment of state royalty.

Federal Windfall Profits Tax (WFPT) at the 70% rate for major oil companies or independents who purchased their interest from a major oil company. Petro-Lewis only pays WFPT on the volumes of oil which it owns, i.e., after royalty payments. An adjustment is made to the amount of WFPT for the state severance taxes already paid which lowers the effective tax rate to about 60%. Tax basc price in the first quarter was $16.78/B.

Tax definition of an independent oil company:

> 50,000 B/D maximum refinery output or a maximum of $5,000,000 in retail sales of petroleum products or about 1,000 B/D of crude oil production.

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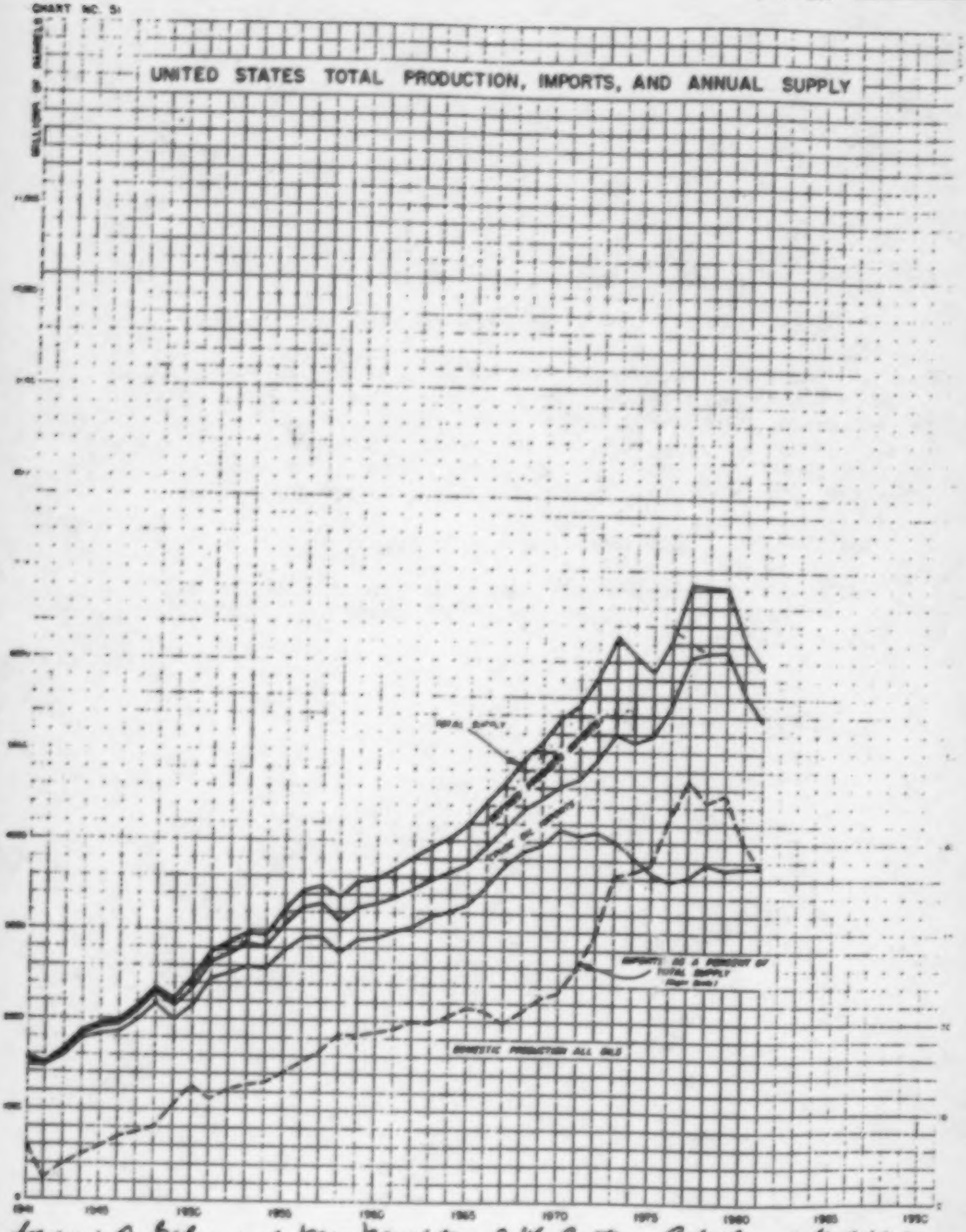
* "Exhibit B" price on monthly state reports. Usually 50¢ - $1/B higher than average wellhead price.

EXHIBIT W



Source: DeGolyer and MacNaughton, 20th Century Petroleum Statistics (1982)

EXHIBIT X

Executive Summary

Consumption of Energy by Type

		Coal[a]	Natural Gas (Dry)	Petroleum	Hydroelectric Power[b]	Nuclear Electric Power	Net Imports of Coal Coke[c]	Other[d]	Total Energy Consumed	Yearly Cumulative Energy Consumed
					Quadrillion (10^{15}) Btu					
1973	TOTAL	13.300	22.512	34.840	3.010	0.910	(0.008)	0.046	74.609	
1974	TOTAL	12.876	21.732	33.455	3.309	1.272	0.000	0.056	72.759	
1975	TOTAL	12.823	19.948	32.731	3.219	1.900	0.014	0.073	70.707	
1976	TOTAL	13.733	20.345	35.175	2.966	2.111	0.000	0.081	74.510	
1977	TOTAL	13.964	19.931	37.122	2.515	2.702	0.015	0.082	76.332	
1978	TOTAL	13.846	20.000	37.965	3.141	3.024	0.131	0.066	78.175	
1979	TOTAL	15.109	20.666	37.123	3.141	2.716	0.066	0.099	78.910	
1980	January	1.367	2.296	3.202	0.263	0.210	0.003	0.006	7.400	7.400
	February	1.313	2.203	2.980	0.241	0.205	(0.001)	0.006	6.959	14.359
	March	1.295	2.107	2.961	0.273	0.213	(0.003)	0.006	6.845	21.204
	April	1.156	1.575	2.750	0.267	0.200	(0.005)	0.006	5.983	27.186
	May	1.162	1.282	2.756	0.321	0.196	(0.006)	0.010	5.833	33.020
	June	1.234	1.298	2.661	0.307	0.195	(0.004)	0.009	5.690	38.710
	July	1.380	1.329	2.719	0.275	0.224	(0.004)	0.010	5.940	44.650
	August	1.381	1.315	2.676	0.232	0.258	(0.003)	0.011	5.870	50.520
	September	1.261	1.333	2.728	0.211	0.251	(0.004)	0.010	5.790	56.310
	October	1.227	1.562	2.887	0.205	0.261	(0.006)	0.011	6.146	62.456
	November	1.250	1.807	2.745	0.219	0.223	(0.002)	0.011	6.253	68.708
	December	1.394	2.184	3.127	0.252	0.235	(0.001)	0.011	7.202	75.910
	TOTAL	15.421	20.391	34.202	3.107	2.672	(0.037)	0.114	75.910	
1981	January	1.487	2.336	3.130	0.255	0.253	0.000	0.011	7.474	7.474
	February	1.314	1.943	2.806	0.239	0.230	(0.001)	0.010	6.342	13.816
	March	1.322	1.949	2.702	0.236	0.234	(0.003)	0.011	6.452	20.267
	April	1.202	1.529	2.523	0.237	0.220	(0.001)	0.010	5.719	25.986
	May	1.211	1.463	2.806	0.273	0.210	0.000	0.010	5.774	31.761
	June	1.313	1.343	2.846	0.296	0.225	(0.004)	0.010	5.828	37.589
	July	1.483	1.349	2.884	0.263	0.246	0.000	0.011	6.036	43.625
	August	1.450	1.349	2.582	0.246	0.287	0.000	0.011	5.935	49.560
	September	1.314	1.299	2.573	0.206	0.260	(0.002)	0.011	5.661	55.221
	October	1.302	1.557	2.687	0.210	0.219	(0.003)	0.011	5.983	61.204
	November	1.291	1.661	2.563	0.218	0.242	0.000	0.010	5.986	67.190
	December	1.430	2.131	2.819	0.270	0.277	(0.003)	0.010	6.933	74.123
	TOTAL	16.118	19.911	32.113	2.870	2.901	(0.017)	0.127	74.123	
1982	January	1.522	2.429	2.696	0.302	0.273	0.000	0.009	7.231	7.231
	February	1.315	2.018	2.446	0.297	0.215	(0.001)	0.008	6.297	13.528
	March	1.281	1.870	2.643	0.332	0.242	(0.002)	0.007	6.374	19.902
	April	1.172	1.510	2.636	0.312	0.232	(0.001)	0.007	5.870	25.772
	May	1.206	1.169	2.521	0.314	0.230	(0.003)	0.008	5.446	31.218
	June	1.231	1.150	2.454	0.313	0.256	(0.004)	0.010	5.410	36.628
	July	1.406	1.173	2.509	0.307	0.271	(0.003)	0.010	5.673	42.301
	August	1.387	1.163	2.520	0.270	0.284	(0.001)	0.010	5.643	47.944
	September	1.249	1.171	2.453	0.226	0.270	(0.003)	0.010	5.376	53.320
	October	1.216	R1.333	2.517	0.227	0.247	(0.001)	0.011	R5.549	R58.869
	November	1.256	1.526	2.471	0.263	0.247	(0.002)	0.011	5.776	64.645
	December	1.402	1.773	2.530	0.267	0.265	(0.001)	0.012	6.277	70.923
	TOTAL	15.643	18.285	30.396	3.432	3.013	(0.022)	0.111	70.923	

Geographic coverage: the 50 United States and the District of Columbia.
Totals may not equal sum of components due to independent rounding.
[a] Includes bituminous coal, lignite, and anthracite.
[b] Includes industrial and utility production and net imports of electricity.
[c] Parentheses indicate exports are greater than imports.
[d] Includes geothermal power and electricity produced from wood and waste.
R = Revised data.
Source: [e] Energy Information Administration calculations based on data reported elsewhere in this publication.
Monthly Energy Review

EXHIBIT Y

Petroleum – U.S.

Crude Oil[1] and Petroleum Products Overview

		Field Production			Stock Withdrawal[2]		Petroleum Products Supplied	Ending Stocks
		Total Domestic[3]	Crude Oil	Natural Gas Plant Production	Crude Oil[4]	Petroleum Products		Crude Oil[4] and Petroleum Products
		Thousand barrels per day						Million barrels
1973	AVERAGE	10,975	9,208	1,738	11	-146	17,308	‡1,008
1974	AVERAGE	10,498	8,774	1,688	-62	-117	16,653	‡1,074
1975	AVERAGE	10,045	8,375	1,633	-17	-145	16,322	‡1,133
1976	AVERAGE	9,774	8,132	1,603	-98	96	17,461	‡1,112
1977	AVERAGE	9,913	8,245	1,618	-170	-378	18,431	‡1,312
1978	AVERAGE	10,329	8,707	1,567	-79	172	18,847	‡1,278
1979	AVERAGE	10,179	8,552	1,584	-148	-25	18,513	‡1,341
1980	January	10,377	8,675	1,648	-594	270	18,851	1,351
	February	10,402	8,705	1,656	-292	563	18,817	1,343
	March	10,303	8,698	1,568	-47	-99	17,377	1,349
	April	10,356	8,665	1,630	-412	-229	16,784	1,367
	May	10,298	8,635	1,615	-117	-520	16,238	1,387
	June	10,164	8,554	1,561	65	-869	16,187	1,411
	July	10,113	8,547	1,524	88	-556	16,008	1,425
	August	9,974	8,414	1,519	-274	-473	15,753	1,439
	September	10,184	8,619	1,515	307	-259	16,598	1,447
	October	10,092	8,532	1,516	-191	756	16,995	1,430
	November	10,109	8,495	1,571	-8	-84	16,702	1,432
	December	10,204	8,606	1,560	304	993	18,410	1,392
	AVERAGE	10,214	8,597	1,573	-98	-42	17,056	
1981	January	10,231	8,540	1,652	50	1,159	18,430	1,385
	February	10,294	8,604	1,653	-278	250	16,989	1,389
	March	10,272	8,613	1,624	-632	224	15,907	1,401
	April	10,195	8,557	1,599	-595	148	15,350	1,415
	May	10,160	8,501	1,583	-391	-374	15,353	1,438
	June	10,267	8,629	1,594	-135	406	16,095	1,430
	July	10,098	8,500	1,548	-360	91	15,682	1,432
	August	10,243	8,583	1,614	397	-999	15,263	1,457
	September	10,281	8,604	1,612	-285	-341	15,655	1,476
	October	10,225	8,563	1,596	-760	477	15,822	1,485
	November	10,269	8,566	1,630	-325	-233	15,593	1,501
	December	10,220	8,585	1,590	-170	745	16,596	1,494
	AVERAGE	10,230	8,572	1,609	-290	120	16,058	
1982	January	10,257	8,669	1,548	-236	1,129	15,690	1,461
	February	10,261	8,690	1,524	-216	1,268	15,941	1,431
	March	10,212	8,567	1,570	-65	1,049	15,560	1,401
	April	10,296	8,652	1,586	107	1,584	16,048	1,350
	May	10,223	8,660	1,520	48	-34	14,845	1,349
	June	10,242	8,661	1,505	86	-515	14,931	1,362
	July	10,228	8,649	1,521	-155	-865	14,771	1,394
	August	10,301	8,701	1,543	-440	4	14,838	1,407
	September	10,306	8,733	1,513	252	-489	14,921	1,415
	October	10,283	8,676	1,540	-564	-55	14,820	1,434
	November	10,377	8,690	1,634	R-357	R-357	R15,031	R1,455
	December†	NA	*8,660*	NA	*-126*	*200*	*14,894*	*1,440*
	AVERAGE	NA	8,671	NA	-140	238	15,201	

Geographic coverage: the 50 United States and the District of Columbia.
Totals may not equal sum of components due to independent rounding.
[1]Includes lease condensate.
[2]A negative number indicates an increase in stocks and a positive number indicates a decrease.
[3]Includes crude oil, natural gas plant production, other hydrocarbons, and alcohol.
[4]Includes stocks located in the Strategic Petroleum Reserve.
‡Ending stocks for 1973–1979 are totals as of December 31.
†Italics denote preliminary data. R=Revised data. NA=Not available.
Notes: Annual stock changes for 1975 and 1981 were calculated using expanded survey coverage.
Sources: • See Notes and Sources on the last page of this section.

EXHIBIT 2

Petroleum

Crude Oil[1] and Petroleum Products Overview (continued)

		Imports[2] Total	Imports[2] Crude Oil[4]	Imports[2] Petroleum Products	Exports[3] Total	Exports[3] Crude Oil	Exports[3] Petroleum Products	Net Imports[5]
		Thousand barrels per day						
1973	AVERAGE	6,256	3,244	3,012	231	2	229	6,025
1974	AVERAGE	6,112	3,477	2,635	221	3	218	5,892
1975	AVERAGE	6,056	4,105	1,951	209	6	204	5,846
1976	AVERAGE	7,313	5,287	2,026	223	8	215	7,090
1977	AVERAGE	8,807	6,615	2,193	243	50	193	8,565
1978	AVERAGE	8,363	6,356	2,008	362	158	204	8,002
1979	AVERAGE	8,456	6,519	1,937	471	235	236	7,985
1980	January	8,598	6,406	2,192	550	322	228	8,048
	February	7,845	6,013	1,831	559	332	227	7,286
	March	7,452	5,695	1,757	573	330	243	6,879
	April	7,106	5,598	1,508	434	192	241	6,672
	May	6,578	5,106	1,472	591	325	266	5,987
	June	6,894	5,480	1,414	654	365	289	6,240
	July	6,257	4,843	1,414	531	238	293	5,727
	August	6,192	4,803	1,389	319	78	241	5,873
	September	6,239	4,707	1,532	557	322	235	5,682
	October	6,379	4,768	1,611	598	300	298	5,781
	November	6,408	4,680	1,728	549	289	260	5,859
	December	6,894	5,082	1,812	622	343	279	6,272
	AVERAGE	6,909	5,263	1,646	544	287	258	6,365
1981	January	6,827	4,932	1,895	558	339	219	6,270
	February	6,772	4,873	1,899	569	198	371	6,203
	March	6,028	4,521	1,507	586	210	376	5,442
	April	5,668	4,338	1,330	570	198	372	5,098
	May	5,775	4,287	1,489	595	312	283	5,180
	June	5,435	4,061	1,375	420	123	297	5,015
	July	5,816	4,296	1,521	571	257	314	5,245
	August	5,767	4,179	1,588	644	204	440	5,123
	September	6,365	4,740	1,624	519	194	325	5,845
	October	5,959	4,380	1,579	738	226	512	5,221
	November	5,741	4,046	1,695	701	278	423	5,041
	December	5,843	4,137	1,706	656	189	467	5,187
	AVERAGE	5,996	4,396	1,599	595	228	367	5,401
1982	January	5,232	3,648	1,585	829	238	591	4,404
	February	4,691	2,949	1,742	804	304	500	3,887
	March	4,461	2,856	1,606	882	321	561	3,579
	April	4,287	2,813	1,474	786	174	611	3,501
	May	4,784	3,314	1,471	803	262	542	3,981
	June	5,227	3,782	1,445	703	94	609	4,524
	July	5,763	4,245	1,518	741	229	512	5,022
	August	5,156	3,820	1,336	858	304	554	4,298
	September	5,360	3,603	1,757	791	184	606	4,569
	October	5,230	3,636	1,594	932	270	662	4,298
	November	R5,726	R3,863	R1,864	786	262	524	4,940
	December[6]	*4,377*	*3,023*	*1,354*	NA	NA	NA	NA
	AVERAGE	5,026	3,466	1,560	NA	NA	NA	NA

Geographic coverage: the 50 United States and the District of Columbia.
Totals may not equal sum of components due to independent rounding.
[1] Includes lease condensate.
[2] Includes shipments from the U.S. possessions and territories.
[3] Includes shipments to the U.S. possessions and territories.
[4] Includes crude oil for storage in the Strategic Petroleum Reserve.
[5] Net Imports equals Imports minus Exports.
[6] Italics denote preliminary data. R=Revised data. NA=Not available.
Sources • See Notes and Sources on the last page of this section.

EXHIBIT AA

UNITED STATES CRUDE OIL IMPORTS BY SOURCE (In 1,000 Barrels Daily)*

OPEC	1981	1980	% Chg	NON-OPEC	1981	1980	% Chg
① Saudi Arabia	1,187.9	1,241.0	-4	② Mexico	486.3	532.0	-9
③ Nigeria	653.3	853.9	-23	United Kingdom	367.9	155.6	+136
Libya	364.4	541.1	-33	Canada	156.7	207.4	-24
Indonesia	341.8	331.3	+3	Norway	132.6	168.8	-21
Algeria	264.4	448.6	-41	Trinidad	111.3	119.7	-7
Venezuela	192.5	194.5	-1	Angola	65.4	38.3	+71
UAE	144.4	181.1	-20	Cameroon	42.1	42.1	0
Ecuador	39.4	21.9	-80	Peru	29.4	40.8	-28
Gabon	33.0	21.3	+55	Malaysia	25.8	54.7	-53
Iraq	11.2	31.5	-64	Oman	25.5	26.7	-4
Qatar	8.4	19.4	-57	Egypt	25.3	34.0	-26
Kuwait	6.1	34.3	-82	Congo	21.9	7.0	+213
Iran	0	23.2	...	Brunei	19.7	14.5	+36
TOTAL OPEC	3,246.8	3,943.1	-18	Zaire	18.1	12.7	+43
TOTAL IMPORTS	4,797.2	5,409.5	-11	Brazil	11.4	0.9	+1,157
OPEC Share	67.7%	72.9%	...	Other	10.9	11.3	-4
NON-OPEC Share	32.3%	27.1%	...	TOTAL NON-OPEC	1,550.4	1,466.5	+6

*Includes imports to the Strategic Petroleum Reserve, U.S. Virgin Islands and Puerto Rico

NOTE: In 1982 Mexico became the U.S.'s leading source of foreign oil.

Source of table and note: Petroleum Intelligence Weekly

1982 US CRUDE OIL IMPORT VOLUMES BY SOURCE (In 1,000 b/d)*

OPEC	4Q	3Q	Yr.Avg.	Chg/'81	NON-OPEC	4Q	3Q	Yr.Avg.	Chg/'81
Mideast	485.2	795.0	754.3	-44.5%	① Mexico	791.8	851.7	726.0	+49.3%
② S.Arabia	349.6	544.8	568.1	-52.2	③ North Sea	692.2	663.9	552.6	+10.4
Iran	92.8	92.2	46.8	...	UK	596.7	514.6	433.9	+18.0
UAE	42.7	146.1	128.7	-10.9	Norway	95.5	149.3	118.7	-10.4
Qatar	0.0	11.9	7.1	-14.9	Canada	242.8	235.2	214.5	+36.9
Iraq	0.0	0.0	2.7	-76.2	Trinidad	76.8	96.7	89.3	-19.8
Kuwait	0.0	0.0	0.8	-86.2	Congo	74.9	50.0	56.8	+159.5
Africa	605.9	753.0	711.1	-45.9	Angola	57.6	56.8	56.[illegible]	-14.4
Nigeria	430.1	648.8	540.7	-17.2	Cameroon	54.1	75.4	57.0	+35.2
Algeria	102.9	66.3	81.2	-69.3	India	46.4	40.4	26.9	...
Gabon	73.0	37.9	52.1	-57.8	Egypt	37.6	6.8	41.4	+63.5
Libya	0.0	0.0	37.0	-89.8	Brazil	36.5	13.1	20.3	+77.6
Other	468.3	504.1	446.3	-22.2	Peru	32.4	21.0	25.6	-12.9
Venezuela	223.1	172.2	161.1	-16.3	Zaire	25.9	23.3	24.1	+32.7
Indonesia	201.9	281.1	240.3	-29.7	Other	74.4	79.3	79.8	-2.7
Ecuador	43.4	50.8	44.9	+13.9	Non-Opec Total	2,243.3	2,213.6	1,970.3	+27.1
Opec Total	1,559.4	2,052.1	1,911.6	-41.1	GRAND TOTAL	3,802.7	4,265.7	3,881.9	-19.1

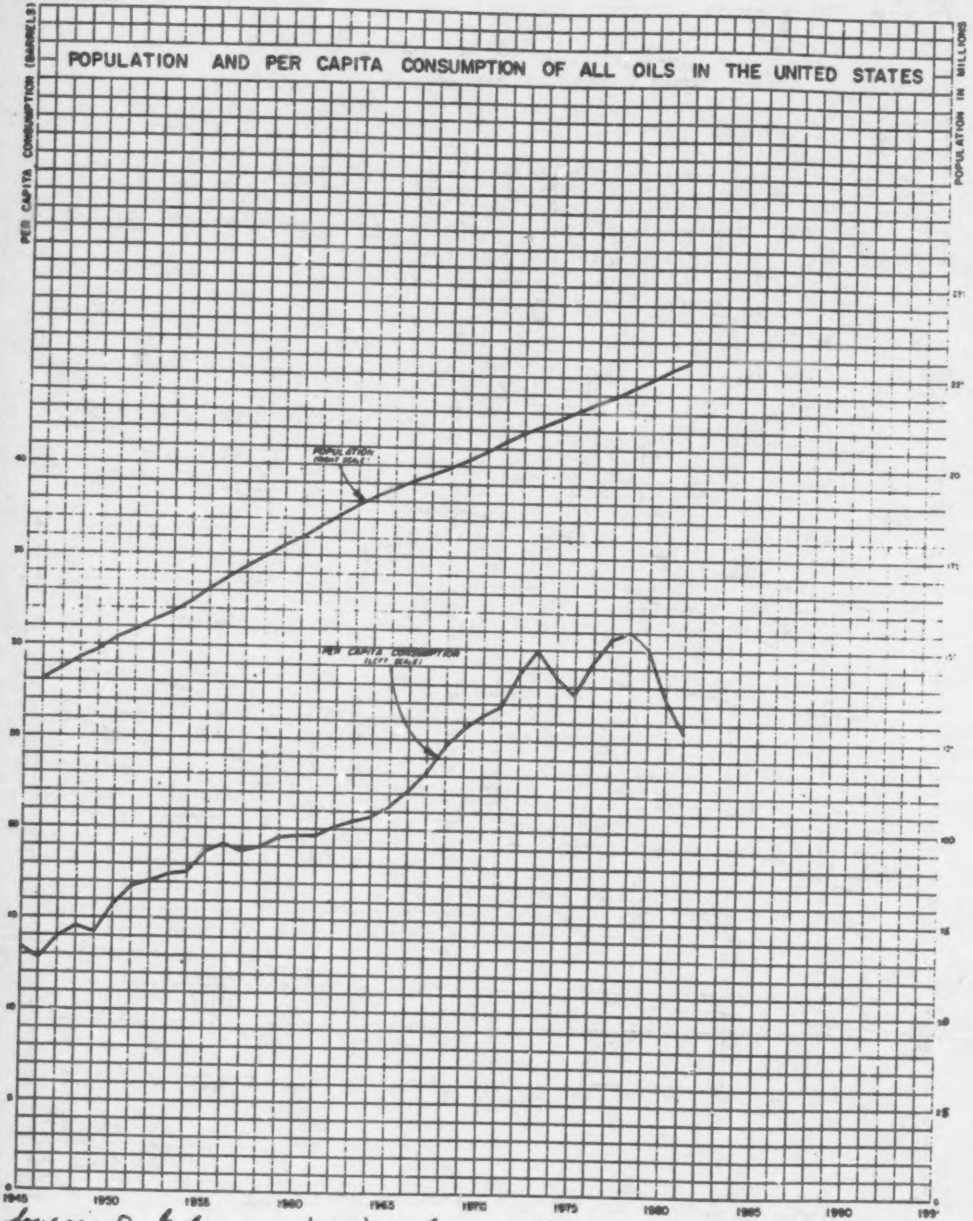
*Includes imports to the Strategic Petroleum Reserve, US Virgin Islands and Puerto Rico.

← 51% share of the total

→ 49% share of the total

EXHIBIT BB

CHART NO. 101



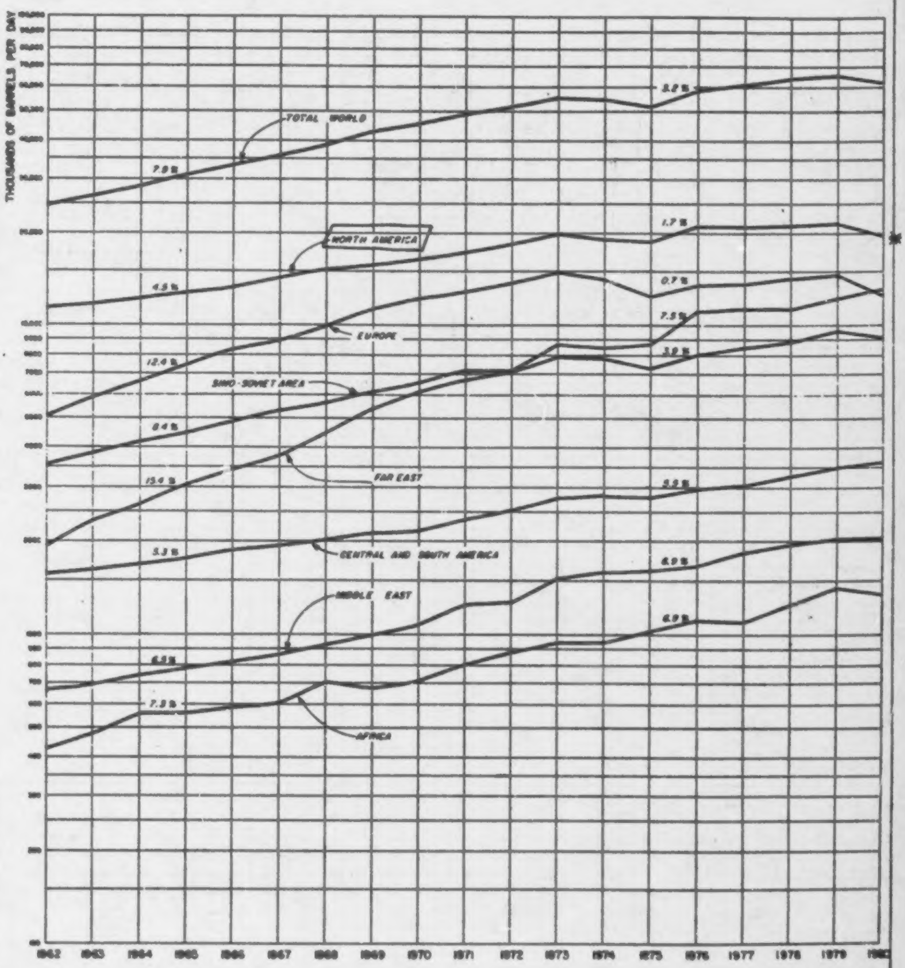
Source: DeGolyer and MacNaughton, 20th Century Petroleum Statistics (1982)

EXHIBIT CC

CHART NO. 15

WORLD DEMAND FOR REFINED PRODUCTS

AVERAGE ANNUAL GROWTH RATE 1960-1970 AND 1970-1980



*[1980-82 Demand in the U.S. declined]

Source: De Golyer and MacNaughton, 20th Century Petroleum Statistics (1982)

EXHIBIT DD

[From the Oil & Gas Journal, Mar. 28, 1983]

NEW OFFSHORE CALIFORNIA OIL SETS STAGE FOR BIGGER WEST COAST SURPLUS

(By Bob Williams)

California's burgeoning offshore oil development lays the groundwork for a big West Coast crude surplus lasting into the next century.

Barring a radical shift in demand or a severe oil price slide, the West Coast crude excess will swell perhaps another 300,000–500,000 b/d through the next two decades beyond the current surplus of about 700,000 b/d.

Offshore California oil, mainly from Miocene Monterey strikes in the Santa Barbara Channel and Santa Maria basin, will account for almost all of that additional growth. And it will mean a heavier, higher sulfur content barrel of oil on the U.S. West and Gulf coasts.

Disposing of that additional low quality crude will require a huge industry investment in new crude processing/treating and transportation facilities on both coasts. In backing out Alaskan North Slope (ANS) oil from PAD V, it also could displace indirectly several hundred thousand barrels a day of U.S. oil imports on the Gulf Coast.

On the other hand, the bigger volumes of ANS taking the costly trip to the Gulf Coast might also spur the push to allow ANS exports to Alaska's natural market in the Far East. Although supporters of the export option contend it would raise West Coast oil prices, its certainty is clouded by the complexity of the region's crude marketing mechanisms.

But even without the Far East option, it isn't likely that the growing California crude surplus will improve prospects for foundering west-east U.S. crude pipeline proposals.

Any long term solution to transport the new offshore crude supplies will have to deal with the new crudes harsh character and individual company refinery capabilities on the West and Gulf coasts. Processing the big volumes of poor crude will strain the capabilities of the companies involved, even with the retrofits under way or planned.

One intriguing solution under consideration is a centrally located, multicompany crude upgrading facility in southern California.

But no long term transportation or processing solution will go on stream soon enough to meet production timetables. So offshore operators will need the interim flexibility of tankering for early production. They will have to choose between two competing nearshore marine terminal/onshore treatment proposals.

Even a short term need for tankering the additional production could create problems with state and Santa Barbara County regulatory agencies, which insist on an onshore pipeline instead of more tankering to handle the extra Santa Barbara Channel area crude. An impasse here could develop into the kind of regulatory quagmire that bogged down development of offshore Hondo field for more than a decade.

SUPPLY/DEMAND IMBALANCE

The West Coast crude surplus, created by development of giant oil fields on Alaska's North Slope, will balloon with development of giant oil fields on California's Outer Continental Shelf.

PAD V crude demand will continue to decline slightly during the 1980s and remain flat during the rest of the century, says Dames & Moore, San Francisco. That outlook is relatively unchanged from a study the firm conducted for Alaska's division of petroleum revenue last year (OGJ, Apr. 12, 1982, p. 51).

In addition, the district's available refinery crude slate will meet individual product demand.

Oil production from Alaska's Prudhoe Bay and Kuparuk River oil fields on the North Slope should keep the trans-Alaska pipeline system (TAPS) at capacity of about 1.8 million b/d through 1988–89, when Prudhoe Bay field begins its decline. Kuparuk River decline is also expected to begin during the late 1980s. Cook Inlet production already is declining.

Possibly offsetting those declines during the early 1990s would be potential production from the Sag Delta/Duck Island area at 75,000–150,000 b/d, Milne Point at about 57,000 b/d, and perhaps another 150,000 b/d combined from Point Thomson/

Flaxman Island area, Gwydyr Bay, West Mikkelsen unit, and other North Slope discoveries.

D&M also points out that undiscovered oil in the Beaufort Sea, nearby state acreage, and the National Petroleum Reserve-Alaska will have to contribute at least another 450,000 b/d of production by 1995 to maintain minimum TAPS throughput at that time. But maintaining that minimum throughput after 2000 will require discovery of another Prudhoe-scale oil field. Together with development of another 250,000 b/d of Bering Sea oil by 2000, that would keep total Alaska production at more than 2 million b/d into the next century.

Projections of output from Alaska's undiscovered resources are speculative. For Alaska production to fall enough to wipe out the West Coast crude surplus would require that no new Alaska development goes on stream this century, assuming that California production growth continues.

But D&M has hiked sharply its projection of California crude supplies because of the explosion of exploration/development in the offshore Santa Maria basin.

The firm anticipates that California's OCS oil production could increase to as much as 575,000 b/d by 1990 from the 1982 level of about 78,000 b/d. D&M estimates oil production of about 90,000–125,000 b/d from offshore state acreage. And about 900,000 b/d from onshore fields will remain relatively flat during the next 20 years.

D&M's California OCS production forecast could be a bit aggressive.

Announced development to date in Point Arguello/Hueso, Santa Ynez Unit, Santa Clara, Beta, and Hueneme fields will increase the state's federal waters oil production to about 460,000 b/d from about 82,000 b/d by the early 1990s. But that doesn't include Chevron U.S.A. Inc.'s two heavy oil reservoirs east of Arguello, new oil strikes by Occidental Petroleum Corp. and Union Oil Co. of California, and several unconfirmed finds in the Santa Maria basin.

On the other hand, its projections of state offshore production could be a little too low.

D&M figures that a 5 percent/year decline in old fields will trim state offshore oil production to about 88,000 b/d by 1986, to jump about 30,000–40,000 b/d during 1988–90 because of new production from South Ellwood, Huntington, and other revitalized fields, in addition to new discoveries stemming from an August sale of state acreage offsetting Point Arguello field.

If the Miocene Monterey proves as prolific under revived and new state leases as operators suspect it is, production growth could be much greater.

Arriving at a total West Coast oil production peak of about 3.5 million b/d in 1990, plus about 300,000 b/d of imports and interdistrict shipments and less about 170,000 b/d of lease crude burned in thermal recovery, leaves a peak surplus of almost 1.2 million b/d by the end of the decade, says D&M, up from an excess in 1982 of about 737,000 b/d.

Depending on future discoveries, the surplus could range from 500,000 to 1.5 million b/d by 2000.

CRUDE MOVEMENTS

The growing surplus of California oil will change the structure of the West Coast crude market.

Those changes, in turn, could affect refining/marketing on the Gulf Coast, as well as U.S. crude export sanctions and new exploration/development on the West Coast.

Of the current crude supply sources in PAD V, ANS is the incremental crude. The district absorbs all of California's 1.1 million b/d, about 200,000 b/d of Indonesian light, and about 900,000 b/d of Alaskan crude. That leaves almost 800,000 b/d of ANS shipped through Panama to the Gulf and East coasts or around Cape Horn to the Virgin Islands.

Much of the incremental California offshore production will back out ANS crude on the West Coast. That could mean another 300,000 b/d or more of ANS crude landing on the Gulf Coast.

Additional supplies of ANS on the Gulf Coast probably will back out sizable volumes of Mexican Maya, Venezuelan, and Arabian heavy crudes.

INDUSTRY'S DILEMMA

Dovetailing surplus crude supplies with West Coast refining capacity isn't easy. For example, it isn't likely that even the firms that want to process all their California OCS crude on the West Coast will be able to do so.

Santa Maria crudes feature a gravity range of 10° to 23° for the most part—with at least one Arguello pay zone yielding 30° to 34° crude—and sulfur content of as much as 2 to 3 percent. At Santa Ynez, gravities range from as low as 6° to the low 20s, while sulfur content can reach as high as 4 to 5 percent.

A feasibility study of a pipeline from the Santa Barbara Channel area to the Los Angeles basin conducted by Bechtel Petroleum Inc. for Chevron, Exxon Co. U.S.A., Atlantic Richfield Co., and Phillips Petroleum Co., indicates big stumbling blocks ahead for efforts to process the high sulfur, heavy new crudes from offshore California in the Los Angeles area.

Bechtel pegged at almost $2 billion the cost of retrofitting existing refineries to process just the 325,000 b/d of low quality crudes expected from announced Santa Maria and Santa Ynez development by the early 1990s and still maintain the needed white barrel.

In addition, permitting snarls loom. Despite the installation of best available control technology in the retrofits, additional air emission offsets would be required. Such offsets were already in very short supply last year, when the study was conducted, and the emissions rules have toughened since then.

One possible solution, says Chevron, is a huge, centralized crude upgrading plant somewhere in southern California operated by a multicompany venture which could upgrade the high sulfur, heavy oil to feedstock more suitable for available refining capacity.

A feasibility study on the proposal is under way. But such a plant could cost in the billion-dollar range and require a blizzard of permits.

At least some sort of adaptation of refining capability is in order.

Even with other transport options, not enough refining capability is in place to handle the tough Santa Ynez and some of the Santa Maria crudes properly.

Ideally, Chevron would like to process as much of its Arguello crude as possible at its Richmond and El Segundo, Calif., refineries and the rest at its Pascagoula, Miss., refinery.

Pascagoula, designed for Arabian heavy, recently underwent a $1 billion bottom-of-the-barrel revamp. But it can't handle much Santa Maria crude, which is higher in metals and nitrogen and features a residuum higher in coke-making capability than any of the other tough crudes available in the Gulf Coast region.

Texaco is eyeing several options to dispose of its Santa Maria Hueso crude but faces as inevitable the fact that processing Hueso crude on the West Coast would only back out other California crudes.

Its refinery at Wilmington, Calif., can run a mix of California crudes. The other Texaco West Coast refinery, at Anacortes, Wash., was adapted to handle ANS and recently received a delayed coker, amine recovery unit, and a sour water stripper cannibalized from its Lockport, Ill., plant (OGJ, Mar. 21, p. 43).

But with major revamps also at its Convent, La., and Port Arthur, Tex., refineries as part of a system-wide program to boost high sulfur crude processing capability to 60 percent from 50 percent, it isn't likely that all of Texaco's future California production will be processed on the West Coast.

Even less or no significant high sulfur resid upgrading capability is apparent on the West Coast among other Arguello/Hueso field participants. And Exxon is committed indefinitely to run ANS crude at its Benicia, Calif., refinery, marking Santa Ynez crude for delivery to Baytown, Tex.

TRANSPORT OPTIONS

The quality of California's new offshore crudes tends to throw a damper on already foundering major west-east crude oil pipeline proposals.

Chevron contends that pipelining the low quality Offshore California crudes probably wouldn't work without the addition of big ANS volumes to assure economic throughput for a major crude oil pipeline project.

And the supply of ANS crude would be in question. The three main North Slope producers already have committed to long term contracts to ship surplus ANS crude through the trans-Panama pipeline.

Nor is the Far East a likely place to ship the extra California offshore crude. Even with the export ban lifted, Japan and other Pacific rim nations don't have any more capability to process the harsh crudes than the U.S. West Coast does.

Chevron wants to avoid the costly transportation problem. A spokesman speculated that if regulatory roadblocks were overcome, it almost certainly would be more economic to process Arguello crude on the West Coast rather than the Gulf Coast, regardless of the retrofit investment.

But that's for a long term solution, one that hews to Santa Barbara County's demand that an onshore pipeline to Los Angeles is preferable to additional tankering to handle the new offshore crude volumes.

That won't work for Exxon, which would only have to tanker the crude from Los Angeles to Baytown. So Exxon has worked out a tentative agreement with regulatory authorities to install onshore treating facilities and a nearshore terminal for further development of 125,000 bd of oil and 135 MMcfd of gas from Santa Ynez Unit to replace its Hondo offshore storage and treating vessel (OG), Feb. 14, p. 64).

The state and county's insistence on consolidated facilities will invite competition between Exxon's proposal and Getty Oil Co.'s plan to expand its Gaviota marine terminal's capacity to 300,000 b/d from 50,000 b/d and move some of the new offshore crude by pipeline to the Bakersfield, Calif., area.

Other California operators aren't favoring either proposal yet.

Exxon's apparent exemption from the regulatory mandate to transport offshore crude via onshore pipeline might spur a similar request from Chevron, Texaco, and others. That's because even with the ultimate disposal of new offshore crude on the West Coast, no long term solution solves the problem of what to do with oil production slated to go on stream perhaps 2-3 years before such major installations are in place. Thus, Chevron and the other firms will need an interim tanker terminal to provide refining flexibility for early production.

If regulators and operators can accommodate both stances and with one consolidated facility, a regulatory fiasco echoing the 12 year delay in Hondo development might be avoided.

FAR EAST OPTION

The Far East option for assimilating some of the surplus West Coast crude isn't much of an alternative for Offshore California operators. Nor is using Alaska's natural market likely, if approved, to completely end ANS crude deliveries to the Gulf Coast area.

North Slope producers have made substantial investments in making the "unnatural" Panama route an economic proposition, pushing profits downstream by subtracting the transportation costs from the wellhead price.

The firms also would lose at least several hundred million dollars in voided trans-Panama line contracts if all Gulf Coast deliveries ceased immediately.

Shifting from deliveries through the Panama Canal to the trans-Panama line is thought to have reduced Gulf Coast transportation costs by as much as $1/bbl.

But the backout of some ANS crude in California could release it for Japan, given government approval—not an easy thing (OGJ), Jan. 31, p. 50).

Despite the complex if workable mechanism of what determines ANS crude prices North Slope producers might be attracted by the purported $3.50/bbl saving in transportation costs to Japan to try for an even better return—at least on North Slope oil exempt from the "windfall profits" tax.

It often has been assumed that lifting the export ban, which is said to depress West Coast crude prices below world levels through the wellhead netback transportation "discount," would hike West Coast prices.

If true, that would be excellent news for California oil producers, who often contend that ANS crude forces some marginal production to be shut in.

On the other hand, a reduced price for the light, sweet (relative to California) Alaskan crude may be all that keeps some small independent refiners from going under.

But the reality of what determines ANS crude prices remains shrouded in the vagaries of the quirky West Coast market, especially with the uncertainty of world crude prices.

It's only one of many difficult issues the industry must wrestle with as it contends with the irony of discovering perhaps the most significant new U.S. oil play since the North Slope strikes while the market will be awash with tough crudes for the foreseeable future.

EXHIBIT E6

The Heritage Foundation Backgrounder
No. 48
The Heritage Foundation • 513 C Street • N.E. • Washington, D.C. • 20002 • (202) 546-4400

February 22, 1983

EXPORTING ALASKA'S OIL AND GAS

INTRODUCTION

A huge resource of oil and gas is locked up in Alaska by federal legislation that prohibits its free commercial export. As a result, Alaskan oil is currently creating a glut and discouraging oil production in California. Half of Alaska's oil production therefore has to be shipped to the East Coast and Gulf Coast at considerable cost, ultimately borne by American consumers.

Removing export restrictions would gain the federal treasury about $1.5 billion per year and also increase Alaska's revenues substantially. It would reduce the nation's deficit trade balance with Japan and the Far East by up to $20 billion in potential oil and gas exports. Beyond these financial benefits, the action could help break the impasse in trade relations with Japan and ensure supplies of energy to close allies who are very vulnerable to interruptions in the flow of Middle East oil. In addition, it would render unnecessary the construction of a $2 billion pipeline from Puget Sound to the Midwest and eliminate the current costly and wasteful tanker traffic to the East Coast.

Most important, it would stimulate Alaskan producers to develop more oil for export, probably from 0.5 to 1 million barrels per day (mbd)--worth about $5 to $10 billion per year. And it would blaze the way for exports of natural gas in the form of liquid natural gas (LNG) or as raw materials for fertilizer, with great benefits to the economic development of Alaska. Gas exports of about 1 tcf (trillion cubic feet) would be worth about $5 billion per year and add the equivalent of another 0.5 mbd to the world oil market.

Changing the law that bans overseas sales of Alaskan oil will take a measure of political effort. That ban has a powerful constituency in the maritime unions. Under a 1920 law--the Jones

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Note: Nothing written here is to be construed as necessarily reflecting the views of The Heritage Foundation or as an attempt to aid or hinder the passage of any bill before Congress.

Act--all shipments between American ports must be made in American-flag ships, manned by American crews. All the oil that leaves the southern Alaska port of Valdez for terminals on the West and Gulf Coasts falls under the Jones Act. Even though only part of the 1.6 million barrels of oil that run through the Alaska pipeline each day might be involved in export to Japan, the maritime unions would fight to keep the law from being changed.

A second problem involves equity for the American companies engaged in northern Alaska oil production. Legally barred from selling this oil to foreign countries, Exxon, Standard Oil Company of Ohio, and Atlantic Richfield Corporation invested heavily in tankers to ship oil from Valdez to other U.S. ports. In addition, these companies are under a three-year contract to move some of the oil going to the Gulf Coast through a pipeline across Panama, offloading from tankers on the Pacific side, reloading to tankers on the Caribbean side. These investments, entered into in good faith, would have to be protected.

But on balance, more would be gained than lost if exports were permitted. Moreover, export of Alaskan hydrocarbons poses no threat whatsoever to U.S. security. On the contrary, putting another 1 mbd (or more) of non-OPEC hydrocarbons into the world market would enable the consumer nations to reduce the amount of oil imported from unreliable OPEC producers. Allowing export of Alaska oil and gas also could improve U.S. relations with Japan. Not only would it narrow the U.S.-Japan trade imbalance ($16 billion surplus for Japan in 1982), but it would go far to alleviate Japan's fears of energy dependence on unstable Middle East nations.

ALASKA'S HYDROCARBON POTENTIAL

In January 1968, roughly 19 billion barrels of oil and 26 trillion cubic feet (tcf) of natural gas were discovered at Prudhoe Bay, Alaska. In 1968-1969, Alaska sold the basic leases for about $900 million, reserving for itself a 12.5 percent royalty interest. Development of the Prudhoe Bay field and plans for an oil pipeline commenced almost immediately. Congress became involved in the decision-making process of selecting the best route for transporting Alaskan North Slope (ANS) oil to market because any oil pipeline would have to cross federal land.

While oil and natural gas have been produced at Cook Inlet since 1954--and successfully exported to Japan in the form of LNG by Phillips-Marathon--it was the 1977 opening of the Trans-Alaska Pipeline System (TAPS) to the Prudhoe Bay field that turned Alaska into a major energy supplier. Last year, Alaska averaged over 1.7 mbd of crude oil production, including over 1.6 mbd from the North Slope. Another 80,000 was added to the TAPS throughput with production from the new Kuparuk field just west of Prudhoe Bay. By the mid-1980s, the $3 billion Waterflood Project will keep up Prudhoe Bay's production by maintaining reservoir pressure through seawater injection. At the same time, Kuparuk production is expected to be at least 0.2 mbd. So production from the North Slope will come near to TAPS' capacity of 2.0 mbd this decade, even if there are no new discoveries.

Estimates of North Slope reserves have been made for the wells and production in the Prudhoe Bay and Kuparuk fields. As of August 1980, Alaska estimated its "most likely" discovered resources at 10.2 billion barrels of oil and 35.4 trillion cubic feet (tcf) of gas. Under stricter definitions, the American Gas Association (AGA) estimated (in January 1982) proven gas reserves to be 26 tcf for the North Slope and 31.9 tcf for all of Alaska. These estimates are for known, existing fields. Though not confirmed by drilling, undiscovered reserves do exist. The AGA study estimated potential gas reserves for Alaska at 145 tcf. The National Petroleum Council issued estimates (December 1981) for the North Slope and the Bering Sea using averages of other studies. They put undiscovered recoverable resources at a mean of 24 billion barrels of oil (high of 55 billion barrels) and 109 tcf of natural gas (high of 246 tcf). These estimates were based on current energy market conditions. Using historical changes in prices and technology, Heritage Foundation analysts estimate Alaska's potential oil reserves at between 48 and 124 billion barrels, with commensurate increases in potential gas reserves. (For comparison, recent annual U.S. consumption was about 5.5 billion barrels (bb) of oil, and about 20 tcf of natural gas. Note that 1 tcf of gas has a heat content of 1 quad 1,000 trillion BTU's, and is equivalent to 0.17 bb of oil.)

RESTRICTIONS ON EXPORTS

The two primary alternatives for carrying the oil to the lower 48 states were a proposed Trans-Canada pipeline, which was to deliver the oil to Midwestern refineries, and the TAPS to deliver the oil to a tanker terminal at Valdez, Alaska, from where it would be shipped south. Certain groups vigorously opposed the Trans-Alaska route, arguing that it would result in serious ecological degradation of the tundra (they were wrong) and that the West Coast would not be able to absorb all of the Alaskan oil (they were right). There were also charges by consumer groups and representatives of Midwestern and Eastern states that the ultimate purpose was oil companies' desire to ship Alaskan North Slope oil to Japan.

When the TAPS bill was passed by Congress, two weeks after the beginning of the Arab oil embargo, concerns about domestic energy security resulted in inclusion within the Act of tight limitations on domestic oil exported to noncontiguous nations, such as Japan. The Act established two broad criteria to determine whether exports should be permitted: (1) The President must make a finding that the exports would "not diminish the total quantity or quality of petroleum available to the United States and are in the national interest and are in accord with the Export Administration Act of 1967," and (2) upon such a finding, the President is required to publish and report it to Congress, which then has 60 days during which it can veto exports by passing a concurrent resolution.

Additional restrictions were put on the export of oil to noncontiguous nations by the 1977 and 1979 amendments to the Export Administration Act (EAA). The 1979 change required that both houses affirm a presidential export proposal. Restrictions on exports have become so tight that it is accurate to speak of an effective export ban for noncontiguous nations.

The reason for the increasing severity of export restrictions has been the continuing, though incorrect, assumption that exports would undermine national energy security. Clashes over the TAPS issue have only made the matter more complex and politically sensitive.

Primarily because oil prices have increased from $2.50 to over $30 per barrel, the demand for oil has not increased as much as both government and industry officials anticipated. As a result, there is an oil surplus on the West Coast. Of the 1.6 mbd of Alaskan oil leaving Valdez, only half is refined in California. The other half is carried by tankers through the Panama Canal (or trans-Panama pipeline) or around Cape Horn to refineries on the East Coast, the Gulf Coast, and the Caribbean.

The maritime industry has a vested interest in the transportation of Alaskan oil, because the Jones Act mandates that any cargo transported between U.S. ports be carried in U.S. bottoms and with U.S. seamen. Half of Jones Act traffic is devoted to Alaskan oil, and about one-quarter of Jones Act traffic would be affected if Alaskan oil were to be freely exported to other countries by cheaper foreign flag tankers.

Another development affecting the maritime industry is the longstanding effort to build a west-to-east oil pipeline. The Northern Tier Pipeline Company, for instance, proposes to construct a pipeline from Port Angeles, Washington, to Clearbrook, Minnesota. The project would cost an estimated $1.9 billion (1981 dollars). This 42" diameter line ultimately would carry .933 mbd. The original project was vetoed by Washington Governor John Spellman for environmental reasons. A new proposal would carry the oil around, rather than across, Puget Sound. Naturally, if such a line were to be constructed, the maritime industry would lose much of its Jones Act business.

Clearly, the time is right for Congress to consider all the options available for Alaskan oil and gas, including the removal of restrictions on exports.

THE SECURITY ISSUE

The maritime industry aside, the principal objection to Alaskan exports stems from security concerns. In case of an embargo or oil cut-off, the argument goes, the U.S. must be guaranteed sufficient Alaskan oil to meet American needs. This argument was born in the period of the first Arab oil embargo. It is no longer valid, if it ever was. The export of Alaskan oil would in no way compromise U.S. security. Indeed, it could enhance it, for the following reasons:

1) The Inconsistency of Oil Export Restrictions

There are no prohibitions regarding the export of oil products, such as gasoline and fuel oil. It seems strange, therefore, that there should be a prohibition against exporting crude oil. There also are no restrictions on exporting oil during emergencies to U.S. partners in the International Energy Agency. In fact, the U.S. has an agreement concerning the sharing of oil supplies during emergencies. It has never been tested, but all IEA members are bound to honor it. Why then should the U.S. not permit the export of Alaskan oil and gas during nonemergency periods?

2) Ineffective Embargoes

There are two kinds of potential embargoes. The first is an embargo declared against the United States without a production cutback. The second is an embargo coupled with a production cutback. The level of production is the critical factor; the simple declaration of an embargo would make little difference to the U.S. except for psychological pressure.

An embargo against the United States cannot be effective--and has never been effective. Oil imported from overseas comes from a number of different sources. If any one of these, or even a combination of them, should embargo oil to the United States, one or both of the following scenarios might develop: (1) the oil companies would sell the oil to another customer, say France, but oil destined to France from, say, Africa, would be diverted and shipped to the United States; (2) oil from the countries involved in the boycott would come into a transshipping terminal, such as Rotterdam, and then be shifted to the U.S. under a swap arrangement. The point is that oil is a fungible substance. Its source matters little.

An embargo would be effective in one instance: if an adversary imposed a naval blockade against the United States along both coasts. Such action would be difficult for any power to mount. But if it were successful, it would interfere with the traffic from Alaska to California and certainly to the East Coast. Short of military actions by opponents, however, the U.S. is immune to any simple embargo.

3) Production Cuts and the Market Price

But what if the embargo were coupled with production cutbacks, such that simple swapping procedures would not be possible? In that case the market could take over and adjust the available supply--now reduced--to the demand. Any production cutback thus would raise the world price, whether the production cutback were coupled with an embargo, or caused by an accident or by third parties, such as a war or sabotage. Everyone would have to pay the higher price in these circumstances--not just the United States. Indeed, the Alaskan oil exported would also command the higher price (as would all domestic oil, in the absence of price controls).

There is often talk about countries "outbidding" each other during a supply crisis, but in a ffee market this would not be the case. As the price went up, those persons (not countries) wishing to buy the oil would have to pay the higher price, and oil use by others would fall. This redistribution of oil would be entirely automatic, in response to normal market forces, not to government allocation efforts.

Some time could elapse before the new supply relationships were established following an oil cutoff. During this time, there could be dislocations and shortages just as there are shortages in retail outlets when the inventory is low. To soften such short-term disruption, the United States and other industrialized countries have provided for strategic reserves of petroleum. The U.S. reserve is designed to replace 90 days of imports, sufficient for orderly adjustments to take place--even if all imports were cut off. (If, on the other hand, only imports from the Middle East were affected, then the stockpile could last well over six months). The release of oil from the U.S. stockpile (or from the stockpiles of other industrialized countries) would limit any price increase due to sudden interruptions in production levels. If the supply interruption persisted, the oil market would reach equilibrium at a higher price; if it were only temporary, there would be no long-term change in price--although, of course, stockpiles would be partly depleted.

4) Two Case Studies--1973 and 1979

What happened during past embargoes? In October 1973, producers on the Arabian peninsula declared an embargo and cut back their production. The declaration itself did little but scare people. The cutback in production, however, increased the price of oil, which eventually soared from about $3 to $12 per barrel.

There was considerable market disruption in the United States in Spring 1974, characterized chiefly by long lines at gasoline stations. These lines were caused by the exaggerated reaction of the federal government, which sought to allocate gasoline and other oil products to achieve a "fair distribution."

Yet federal bureaucrats had no more success than any other planners in trying to simulate the workings of the market, and misallocation inevitably followed. "Shortages" occurred widely in 1974 because well-meaning government interference with the market process was compounded by price controls on domestic oil. Without free movement of prices, there was no reason for demand to fall to the new, reduced level of supply--other than by the forced decline in consumption because of waiting in line. (The 1974 experience has been discussed and documented in some detail by a number of authors, for example, Professors Paul MacAvoy, H.A. Merklein, and others.) But nothing was learned. In 1979, the Department of Energy again put into effect an allocation system--with predictable results: long lines at gasoline stations.

Further proof that embargoes do not work is found in the events of November 1979. When the U.S. Embassy in Teheran was occupied, President Jimmy Carter declared that the U.S. would no longer buy Iranian oil. The action was, in effect, a self-imposed embargo--a boycott. Of course, nothing happened. The Iranian oil went elsewhere, and the U.S. bought oil from other sources. There was no psychological impact either--perhaps because the word "embargo" was never mentioned.

One of the first acts of the Reagan Administration was to remove price controls on oil. Congress still believed that an allocation system had to be instituted during emergencies and tried to force the White House to agree to such a system. In vetoing the bill, President Reagan explained why the market allocates more successfully than any bureaucrat or combination of bureaucrats. The U.S. Senate upheld the presidential veto.

It should seem clear that embargoes and production cutbacks do not work, when oil prices are decontrolled and a large strategic stockpile keeps prices from moving too high. An embargo threat is little more than a psychological tool that is effective only if the victim thinks it might be harmful.[1]

Security Benefits from Alaskan Exports

¶ There are certain security benefits that should be taken into account when contemplating export of Alaskan oil. If exports were to be permitted, the oil companies holding concessions on the North Slope would certainly increase production and put more oil into the world market. A conservative estimate is that the additional output could amount to 0.5 mbd (more optimistic estimates exceed 1 mbd), in addition to the 1.6 mbd now being supplied through the pipeline.[2] The liquid natural gas exports could exceed 0.5 mbd of oil equivalent.

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[1] It should be noted that President Reagan ousted Libyan diplomats from Washington, and Libya made no effort to institute retaliatory action in the oil market against the United States; they also know that embargoes don't work.

[2] If production rises above 2 mbd, the pipeline's capacity can be increased at relatively little cost.

Putting more oil and gas onto the world market would be very beneficial to the United States. Not only would it improve the trade balance by about $15 billion per year, and make money for the Treasury, Alaska, and the stockholders of American oil companies, but it would weaken the power of OPEC. As American oil captured a share of the world market, it would decrease consumer dependence on OPEC oil. It would also put downward pressure on the world price by limiting what the OPEC cartel could sell.

If U.S. exports to Japan were increased by 1 mbd, for instance, Japan could reduce its imports from Mexico by a like amount, and the U.S. could replace 1 mbd of Middle East imports by more Mexican oil. Clearly U.S. security would be enhanced. Mexico would gain through lower transportation costs, and even more important, the world oil price would probably be lowered by approximately 5 percent. Since OPEC is currently earning about $200 billion a year in revenues, this would reduce the oil bill of the importing countries, including the United States, by about $10 billion a year.

ECONOMIC BENEFITS AND COSTS OF ALASKAN EXPORTS

The effective ban on exports has led to an established market of Alaskan North Slope (ANS) crude oil on the Gulf and West Coasts. About half of North Slope production is used on the West Coast; the rest is shipped to the Gulf and East Coasts on U.S. flag tankers. The exportation ban, the Jones Act, and the lack of a west-east U.S. oil pipeline mean there is no other marketing option--except not selling oil at all. Eliminating the export ban would open up other, more profitable markets for the surplus.

For an estimate of the scale of the export potential, market prices may be approximated using the price of Persian Gulf (i.e., Saudi Arabian) oil, plus the costs of its transportation to each market. The "wellhead" price which producers receive for their crude oil is the market price (say, in Houston) minus transportation costs. These costs vary with shipping distances, tanker size, and other factors.

Jones Act requirements set U.S. tanker rates well above world tanker rates. Table 1 gives some relevant tanker rates.

Table 1
CRUDE OIL TRANSPORTATION COSTS
($/barrel)

Departure Port	Destination Port	Tanker Costs
Alaska (Valdez)	West Coast	$1.47
	Gulf Coast	4.00
	Japan	.51
Persian Gulf	West Coast	1.50
	Gulf Coast	2.03
	Japan	.96

The different rates mean that ANS producers receive different wellhead prices for their oil, depending on its destination. Using market prices established by Persian Gulf oil, ANS producers would net back $2.00/barrel more for their West Coast shipments than for the Gulf Coast shipments. They could use such a price advantage to drive the West Coast price down and expand their market share by discounting. In fact, there is already increasing, although incomplete, evidence of some West Coast "discounting."

If the ban on exports were lifted, ANS producers could increase the wellhead prices of their currently Gulf Coast-bound shipments by $2.42 per barrel (i.e. $1.97 + 0.96-0.51) by changing the destination to Japan and taking advantage of lower shipping costs. At the same time, of course, a change in the destination of ANS crude would reduce the glut in the West Coast market, and West Coast crude oil prices could rise by as much as $2.00 per barrel. So there would be an increase in the netback to the ANS and to the local California producers, who were previously forced to lower their prices to match the ANS competition.

Another factor in the equation would be the reduced shipping costs associated with the Alaska-West Coast route. The reduction in the demand for U.S. tankers because of the reduced Alaska to West Coast trade and the absence of Jones Act requirements on exported oil would mean more competition along the American coastline--further raising the ANS netback. (For computation ease, it is assumed here that Alaska-West Coast shipping costs would fall by $.42 per barrel, from $1.47 to $1.05, although larger decreases have been forecast.) A summary of total possible increases in wellhead prices resulting from these factors is given in Table 2.

Table 2
ESTIMATED INCREASES OF CRUDE OIL WELLHEAD PRICES
AFTER THE LIFTING OF THE OIL EXPORT BAN
($/barrel)

Market Conditions	Originating Port	Export Ban		No Export Ban		Wellhead Increases with Export Ban Removed
		Destination Port	Wellhead Price	Destination Port	Wellhead Price	
No Discounting	California	West Coast	PG* + 1.50	West Coast	PG + 1.50	.00
	Alaska	West Coast	PG + .03	West Coast	PG + .45	.42
	Alaska	Gulf Coast	PG + 1.97	Japan	PG + .45	2.42
Full Discounting (by Alaskan Producers in California)	California	West Coast	PG - .50	West Coast	PG + 1.50	2.00
	Alaska	West Coast	PG - 1.97	West Coast	PG + .45	2.42
	Alaska	Gulf Coast	PG - 1.97	Japan	PG + .45	2.42

*PG=Persian Gulf price

ANS oil shipments to the eastern U.S. amounted to more than 0.8 mbd in 1982. 0.82 mbd was used for calculations of gross wellhead revenue increases if the oil were exported to Japan, (and 1.1 mbd for California production). The wellhead increases would be between $804 million per year and $1,391 million per year for ANS production, and up to $803 million per year for California production. But the private producers would not receive all of these benefits. Alaskan royalty oil and severance and income taxes would take over 32 percent of ANS increases. The federal government would take 7 percent in corporate income taxes and 52 percent in windfall profit taxes for most current production. California oil producers' increases in revenue would also be taxed. Analysis suggests that the division would leave ANS producers with 8.27 percent of the increases or between $66 million and $115 million per year. The gross yearly wellhead revenue increases and its division are given in Table 3.

Table 3
ESTIMATES OF GROSS REVENUE INCREASES
AND ITS DIVISION
($ millions/year)

Market Conditions	Gross Wellhead Revenue	Yearly Increases		Gross Federal Taxes Taxes
		Producer	State Profits	
No Discount	804	66	262	475
Full Discount				
Alaska producers	1391	115	454	822
California producers	803	626		177
Total	2194			999

Increased revenue to oil producers and the governments does mean some costs to others. Initially the wellhead gains could come at the expense of the tanker owners and crews, the new Panama pipeline, and other groups involved in the transportation of the Alaskan oil to the Gulf Coast. The West Coast refiners and their consumers would also lose the present discount. And some tax revenue would be lost from those companies and individuals.[3] But these losses would occur in any event if the proposed

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[3] Another cost to the federal government could be for the acquisition of U.S. tankers whose loans are guaranteed under Title XI. A U.S. Maritime Administration working paper put the one-time net government cost at $593.8 million. But this figure is based on the worst-case projection that all of the tanker tonnage is displaced permanently. This is unlikely, so the actual government cost would be less.

West-to-East oil pipeline were built. In any case, such losses would be surpassed by the savings in transportation, the new commercial opportunities of the export trade, and the long-run benefits of a freer and more efficient market.

ALASKA GAS TRANSPORTATION OPTIONS

Through the middle 1970s, the development of Alaska's hydrocarbon resources focused primarily on the state's enormous oil reserves. For nearly thirty years, a small amount of natural gas has been produced in the southern portion of the state for export to Japan in the form of LNG; but the huge gas reserves of the Alaskan North Slope remain untapped. The opening of the TAPS, which transports North Slope oil to the port of Valdez, gives the gas reserves associated with that oil a new importance. The gas has been reinjected into the formation from which it was drawn, but reinjection provides at best a temporary solution. After a time, this practice results in a reduction in oil field pressure, and an accompanying reduction in the amount of oil that would ultimately be recovered. Moreover, since up to one-third of the gas is consumed in the process of reinjection, the technique carries a high energy penalty. Still, absent a means of transporting the gas, the only other option was to burn it off, or "flare" it--as industry experts call the practice.

The Alaskan Natural Gas Transportation Act of 1976 also contains export limitations. Section 12 states that "the President must make and publish an express finding that such exports will not diminish the total quantity or quality, nor increase the total price of energy available to the United States."

The situation with respect to natural gas is somewhat similar to the oil case. The Prudhoe Bay field contains the largest discovered gas reserves on the North American continent; it represents 10 percent of proved reserves and more than a year's supply for U.S. consumers.[4] Several companies studied ways to move the natural gas to markets. Proposals were filed with the Federal Power Commission (now the Federal Energy Regulatory Commission), beginning in 1974. Of the various proposals, the one finally selected, the Alaska Natural Gas Transportation system (ANGTS) would move gas by pipeline from the North Slope to the Midwest through Canada. However, ultimately the very high cost of the pipeline, now estimated to be in excess of $40 billion, has made the proposal impractical. With higher wellhead prices for natural gas, and with a limited deregulation approaching in 1985, a great deal of gas has been developed in the lower 48 states. The various provisions of the Act can do nothing to make Alaskan gas competitive in price with gas from the lower 48.

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[4] The appraisal of undiscovered probable ANS reserves is of the order of a 10-year supply.

One of the proposals submitted to the Federal Power Commission (FPC) was by the El Paso Alaska Company to transport natural gas from Prudhoe Bay through approximately 800 miles of 42" pipeline, to a gas liquefaction plant and terminal located on Prince William Sound at Point Gravina, Alaska. There the gas would be converted to LNG and shipped via cryogenic tankers to Point Conception near Santa Barbara, California. However, the LNG could be shipped just as easily to Japan, Korea, Taiwan, and other users in the Pacific Ocean basin--but more cheaply from the Kenai peninsula than from Point Gravina. The amount would be on the order of 2.8 billion cubic feet per day or approximately 1.0 tcf per year, worth approximately $6 billion per year.

The Alaska Gas Transportation System (ANGTS) faces problems with financing, cost overruns, and doubts over the marketability of the relatively expensive Alaskan gas in the lower 48 states, which are awash with far less expensive conventional gas. As a result, Alaskans have begun to reexamine the alternatives available to them to determine if some other approach to the problem of marketing their oil and gas might be more sensible. The principal options currently under consideration include:

* To continue to pursue financing for the ANGTS project, in hopes that the use of innovative rate structuring and the decline of interest expense might make Alaskan gas more competitive at some future date.

* To select an alternative means of transporting North Slope gas in hopes that it will prove less expensive, again making the gas more competitive in the lower 48 states.

* To determine whether Alaskan producers should abandon the notion of marketing the gas in the lower 48 and instead focus on the export market.

* To examine ways of using the gas within the state to establish some sort of manufacturing base.

Determining the best solution for the North Slope gas is doubly difficult because the oil and gas market, both in the U.S. and internationally, is undergoing a period of rapid and dramatic change. As the patterns of this change become clearer, it is evident that the traditional view of the gas market is no longer valid. The policymakers currently examining Alaska's options must thoroughly understand the evolution that is taking place, as it will affect fundamentally the economics of those options.

THE CHANGING NATURAL GAS MARKET

"Shortage" into Surplus

It is easy to forget that, as recently as five years ago, the conventional wisdom held that the United States would soon run out of natural gas. Throughout the first half of the 1970s, interruptions in natural gas deliveries on the interstate market increased, and gas reserves committed to that market diminished. By the winter of 1976-77, the situation had reached crisis proportions, as regions of the Northeast and Midwest faced massive gas shortages that threatened economic chaos. Policymakers were quick to point to these shortages as evidence that the exhaustion of America's natural gas reserves was imminent. This view was embraced with particular enthusiasm by officials of the past Administration, many of whom were convinced that all of the world's resources were on the verge of exhaustion.

Against this background, Alaska's enormous North Slope gas reserves were very tempting to policymakers who believed the United States faced the prospect of running out of oil and gas. The high cost of utilizing these reserves seemed of little consequence.

As early as 1979, however, evidence began to appear that the dire assessment of gas reserves, widely taken as axiomatic, was grossly overstated. The first sign was the appearance of a so-called gas bubble--a large volume of gas that "found" its way into the market. According to the prevailing view of reserves, it should not have appeared. Analysts tried to explain it as merely a temporary "market anomaly" that would soon be absorbed, leaving the U.S. once again with the shortage. The bubble, however, did not disappear; the shortage did. In fact, in 1981, for the first time in more than a decade, the U.S. added more new natural gas to its reserve base than it used. In 1982, instead of a shortage, there was a surplus of natural gas estimated at fully 15 percent. The surplus is currently so great that gas companies, which once could not serve all of their existing customers, are now seeking new ones. But more important, the unexpected availability of natural gas has taken place at prices far below those needed to make North Slope gas economic. Should natural gas prices be decontrolled this year, even greater volumes of gas priced below an economic level for Alaskan production under current circumstances are expected to find their way into the market.

Growing Competition

Competition from natural gas produced in the lower 48 states is not the only factor limiting the marketability of Alaskan gas in the United States. The import of large volumes of natural gas from Canada and Mexico will also provide stiff competition. Both Mexico and Canada are experiencing great economic pressure to move their gas into the U.S. market. Until recently, both countries had priced gas at levels that limited its attractiveness to U.S. consumers. But these pricing policies--which seemed strangely similar--were simply the product of the seller's market for energy existing in the middle to late 1970s. With the crumbling of OPEC, the steady decline of world oil prices, and energy conservation, both Canada and Mexico have had to rethink their policies. As a result, both nations are now willing to make price concessions. Canadian gas, for instance, sells in the United States at only 65 percent of its authorized price. Despite this reduction, the volume taken is down from just a few years ago.

For Mexico, whose gas reserves far outstrip those of either the United States or Canada, increased sales of both oil and natural gas are critically important. The country's financial collapse was only a warning signal. The need to feed and find employment for its burgeoning population makes it imperative for Mexico to expand sales of its oil and gas. The United States is its most logical market, and so competition from Mexico seems likely to be an even greater barrier to the marketing of Alaskan gas in the lower 48 states than competition from domestic or Canadian gas producers.

Competition from conventional sources of natural gas, whether domestic or foreign, is not the only factor affecting the marketability of Alaskan gas to lower 48 consumers. Of equal importance will be competition from other fuels, and especially from residual fuel oil, or "resid" as it is commonly termed. Since the largest share of natural gas is consumed in the industrial boiler market, industrial consumers effectively determine the price at which gas is sold. Part of their ability to influence gas prices stems from the fact that most industrial boilers were modified to accommodate a variety of fuels during the 1970s, when natural gas supplies were subject to the federal regulators. Many of these boilers can burn either natural gas or resid. As a result, the latter's price effectively caps the price at which natural gas can be sold. At present, resid sells for roughly the equivalent of gas priced at between $4 and $4.50 per thousand cubic feet (mcf). But residual fuel oil prices are expected to decline further in the future because of oversupply.

Given the intense competition, and the probable future price trends in the natural gas market of the lower 48 states, it seems unlikely that North Slope natural gas will be competitive. Therefore, the current price structure must be modified, or an alternative market sought, if Alaska's hydrocarbon resource is to be utilized and further developed.

Reshaping the ANGTS Project

One of the reasons Alaskan gas will be so expensive in the first few years after Alaska Natural Gas Transportation System (ANGTS) comes into service is that loans made for its construction must be repaid. If the repayment schedule can be renegotiated to stretch the payments over a longer period, the selling price of the gas might be reduced. The effectiveness of this approach will hinge on two major factors.

The first is the interest rate. Since most plans to restructure the pipeline's financing call for the payment of interest, the interest rate and capital repayment schedule (even if deferred) will have to be such that the final price of Alaska gas is competitive.

The second factor, of course, is the prevailing price the lower 48 gas market. Just what this might be in the future is hard to say, but one thing is certain: if Alaskan gas expects to compete, its current projected cost of $10 per mcf (in 1982 dollars, equivalent to $60 oil) must be reduced. Recent attempts to market deep gas at a similar price have failed. In fact, several pipeline companies recently informed a group of deep gas producers that the lines would pay no more than $5 to $6 per mcf for deep gas. This seems to be compelling evidence that Alaskan gas will have to sell in the $5 range if it is to compete with alternative sources of gas.

POSSIBLE ALTERNATE ROUTES

One possible solution to the North Slope gas dilemma would be an alternate means of transportation. Everything from huge atomic submarines to a variety of pipeline routes has been suggested, but the best alternative to the ANGTS appears to be the so-called All-Alaska Pipeline, proposed several years ago by the El Paso Company, which would be built parallel to the existing oil pipeline. At the time the proposal was first put forward, estimates of its cost included funds to build a California LNG terminal and purchase eleven LNG tankers. Adjusted to current dollars, the original cost estimates for the All-America route compare favorably with the $23 billion estimate for the Alaskan segment of the ANGTS pipeline.

A simple inflation escalation of the original estimates for the All-America route, however, does not give an accurate probable cost figure for the project. There are numerous LNG tankers available on the present world market. Some have been sold just for their scrap value. Others have been converted for bulk commodities such as grain. So the current low cost of LNG tankers should be built into revised cost estimates. This factor alone would imply that the All-Alaska route should be supported, if financing for ANGTS fails to materialize. But the All-Alaska route has another, possibly more important, advantage over ANGTS: it does not restrict Alaskan gas to the domestic market, and thereby opens the prospect of Alaskan gas exports.

A committee appointed by the Governor of Alaska in January 1983 has recommended the construction of such a 820-mile pipeline to carry natural gas from Prudhoe Bay to the coast, where it would be liquefied and shipped to Japan. The scheme is a viable alternative to ANGTS.

The committee proposes that the 36-inch line follow the route of the Trans-Alaskan oil pipeline as far as Fairbanks, where it would continue west to the Kenai Penisula.[5] Cost of the line is estimated at $14.6 billion (as-spent dollars). The liquids would be removed at a $2.5 billion conditioning plant on the coast. The liquefaction plant would cost an estimated $8.3 billion. Total costs would be $25.4 billion in current dollars, $14.3 billion in 1982 dollars--a far cry from the $43 billion total anticipated for ANGTS.

The committee suggests that the project be built in three phases, with revenue from the first phase providing the cash flow for financing the rest of the project. The line's initial capacity, beginning in 1988, would be 950 million CF/day of gas, permitting export of 4.8 million tons/year of LNG. In the second phase, starting in 1990, the line would carry 1.75 billion CF/day of gas, and LNG production would be 8.9 million tons. In the third phase, set for 1992, the levels would be 2.8 BCF/day of gas and 14.5 million tons of LNG. Natural gas liquids production is projected to exceed 110,000 bbl/day by 1992.

ALASKAN NATURAL GAS AND THE EXPORT MARKET

A worldwide trend toward greater use of natural gas has been well established. The most logical export markets for Alaskan gas are the nations of the Pacific Rim, especially Japan. The Japanese already import small amounts of LNG from Alaska. Significantly, Japan is moving aggressively to make use of LNG, and recently contracted with Indonesia for major purchases of the fuel. As a result of this policy, Japan has the necessary LNG terminals in place, and already owns LNG tankers. Hence a pipeline, processing facilities, and liquefaction plant would be the only U.S. infrastructure necessary to market LNG to Japan. Japan might even be willing to help finance the project. However, the decision would have to be made quickly; otherwise Japan might find supplies elsewhere.

A number of economic advantages, beyond the obvious revenues, would be associated with the export of Alaskan gas to Japan. First, such trade would go a long way toward reducing the current U.S./Japan trade imbalance. Secondly, it would reduce Japan's dependence on fuel imported from the politically unstable Persian Gulf, and thereby greatly enhance the world's energy security. Most important, by directly reducing the world's oil consumption, Alaskan gas exports could also help to keep world oil prices down.

It would seem, therefore, that exporting Alaskan gas to foreign markets would be advantageous--for Alaska and for the world in general. These advantages would not materialize if the gas were marketed only within the U.S. Alaskan gas sold in the lower 48 would not displace foreign oil; domestic usage would have no effect on the U.S. balance of payments; and building a pipeline to transport gas domestically would be a far more expensive proposition than building a pipeline to transport gas for foreign markets. Exporting Alaskan gas would therefore appear to be the optimum solution to the North Slope gas dilemma, from a national standpoint.

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[5] This location would incur less environmental risk than Point Gravina (which would have cut through the Chugach range). It would also shorten the travel time to Japan.

DEVELOPING AN ALASKAN EXPORT STRATEGY

Gas exports could provide the catalyst for establishing a stable industrial base in the 49th state. Throughout its history, Alaska's economy has been characterized by sharp cycles. The primary reason for the erratic behávior of the Alaskan economy has been its dependence on the extraction and export of raw materials. Whether the Klondike Gold Rush or the Prudhoe Bay oil find, Alaskan resources went to the lower 48 for finishing, along with potential jobs and revenues from further processing.

In many respects, the removal of raw materials for processing has been unavoidable. Alaska's total population numbers less than half a million, and roughly half of its residents live in small communities scattered across a vast expense of wilderness. Construction costs can often range as much as 50 percent above those in more temperate climates. Nonetheless, modern technology could make local processing of some portion of the state's hydrocarbon resources a realistic possibility. If processing operations proved to be economic, an industrial base to supply continuing employment, and economic stability would finally materialize. But the shape of such a processing industry must be tailored to the state's limitations and advantages. Although Alaska's climate and small population are obvious limitations, its remoteness from America's industrial heartland is a drawback only if the U.S. domestic market is the export goal. If Korea, China, Japan, and the rest of the Pacific Rim became the principal market, Alaska's position would actually be advantageous. Furthermore, by using gas exports as a means of underwriting the cost of a pipeline to bring natural gas down from the North Slope, the other products produced from the fuel could more than offset the competitive disadvantage caused by the state's higher construction costs.

Urea and ammonia rank high on the list of products that might lend themselves to in-state fabrication for the export market. These commodities are the basic components of the fertilizers needed so desparately in the People's Republic of China. Whereas any attempt to market fertilizers produced in Alaska in the lower 48 would be doomed to failure because of the enormous cost of transporting the products to market, shipment to the Far East would entail a relatively easy haul. Moreover, the commodities could be moved in bulk, further reducing their cost. Most important of all, they could be produced in automated plants using highly skilled, well-paid workers. In sum, the production of fertilizer components would seem ideally suited to the state's unique charactertistics.

LNG is also well suited to Alaska. Like fertilizer production, modern LNG facilities are highly automated and employ a small number of skilled workers. Moreover, a pool of experienced LNG workers already exists in the state because of the LNG facility in operation on the Kenai peninsula.

CONCLUSION

The legislative restrictions on Alaskan oil exports had their origin in the fear of an oil cutoff by overseas producers. It is now clear that oil, as a fungible substance, cannot be embargoed from the United States. Any supply shortfall must be shared by all consumers through the world oil market, which will raise the world price of oil. Now that its price has been freed in the U.S., oil will be imported at the higher price in case of a supply shortfall, but Alaskan oil also will be sold at the same higher price.

Blocking the export of Alaskan oil imposes great costs, ultimately borne by the U.S. taxpayer. Shipping Alaskan oil to the East Coast leads to great economic waste, as would the construction of a special pipeline to the lower 48 states.

The optimum solution for North Slope gas appears to be its export as LNG, using a pipeline paralleling TAPS. The construction of such a system would also encourage the use and manufacture in Alaska of urea and ammonia fertilizer (for export to the Far East). The sensible option for Congress would be to remove restrictions, so that Alaskan oil and gas can be freely exported. This makes sense economically and from a foreign policy perspective as well. U.S.-Japan relations would be enhanced considerably by increased American energy sales to the Japanese.

The possibility of exports of additional oil, bringing a higher return for producers, will act as a powerful incentive for Alaskan oil producers to develop more production. By putting more oil and gas on the world market, such exports would reduce the need for OPEC oil and apply downward pressure on the world oil price--to the benefit of industrialized countries and oil-importing developing nations alike.

S. Fred Singer
Senior Fellow

Milton Copulos
Policy Analyst

David J. Watkins
Research Economist

Senator MURKOWSKI. Mr. Winningstad, we appreciate your agreeing to present your testimony before us today and we look forward to reading your detailed testimony. I do want to advise you that the hearing record will remain open for approximately 2 weeks and any additional material that you would like to submit would be welcome.

You may proceed. Might I ask that you come a little closer to the microphone?

STATEMENT OF C. N. WINNINGSTAD, CHAIRMAN AND CHIEF EXECUTIVE OFFICER, FLOATING POINT SYSTEMS, INC., PORTLAND, OREG.

Mr. WINNINGSTAD. Mr. Chairman and members of the subcommittee, I am C. Norman Winningstad, chairman of Floating Point Systems [FPS], of Beaverton, Oreg. I appreciate the opportunity to testify on our overall trade policy and, in particular, my company's experience with the Export Administration Act.

Floating Point designs, manufactures and markets special purpose computers called array processors which perform complex mathematical calculations at very high speed for low cost. We are part of the high technology industry which is being talked about so much these days. Among other things, our products are used in the seismic exploration for oil.

FPS sold its first products overseas in 1972. Last year, our export sales totalled $20.8 million, accounting for about 24 percent of our total sales. Altogether we have 12 overseas offices and 10 independent distributors. Our newest overseas sales office was opened in Japan in 1982. We are one of the few U.S. computer companies selling in Japan but not manufacturing there.

Overseas sales are obviously very important to us. From where I sit, American trade policy looks like the accidential sum of a series of policy decisions on discrete issues. Whether to permit the import or export of a particular product is decided by the Government agency and the involved interest groups based on their own institutional concerns. The Government agencies worry about their narrow policy areas and the interest groups worry about job and market protection. Larger foreign policy questions appear to be forgotten.

For example, some of the Government agencies which pass on export licenses worry about national security. Other players in Congress and the agencies have domestic economic interests in mind. The end result of this ad hoc policymaking is an overall policy in which free trade is increasingly the exception rather than the rule.

Contrary to popular belief that we are free traders and, therefore, suckers, the United States is becoming as bad on foreign trade issues as we perceive others to be. We now have voluntary or mandatory restrictions on a wide range of imports and exports, including automobiles, shoes, textiles, clothing, specialty steel, to name a few. We have imposed Buy American requirements on thousands of tender offers at the Federal, State and local levels.

On the export side, we prohibit the export of oil from Alaska and have limited grain exports and the export of logs from our national forests. In the area of greatest interest to me, high technology, in addition to limiting exports with military potential to our adversaries, the Defense Department, correctly, in our opinion, wants to prevent them from obtaining access to our technology through secondary sources.

DOD is trying to extend limits to friendly nations who might reexport and to foreign manufacturers who might improve upon a product we export. Other restrictions are less direct, but they are no less noticeable. These involve delaying export licenses for foreign policy reasons.

Our diplomats like playing with export licenses because a slowdown in the process is a subtle and amorphous diplomatic tool that is hard to complain about but which sends an unmistakable signal. The State Department is the one branch of government which should be able to rise above narrow economic interests and consider trade as a part of our overall foreign policy.

Yet, ironically, it uses trade as a tool to deal with other problems of foreign policy it considers more important. Increasingly, trade policy is foreign policy and our economic relations with other governments, developed and developing, Communist and Socialist, democratic and dictatorial, determine the state of our overall relations with those governments.

My fear is that we have been so involved in the politics of East-West confrontation that we have forgotten the need to trade with the rest of the world. We have allowed the confrontation to dominate our trade policy and have lost sight of other important economic and political issues.

Before I go any further, let me say that Floating Point recognizes the importance of safeguarding access to certain critical technologies. Certainly the national security interest of the United States has to be the preeminent concern for all of us. At FPS, we make a fetish about being sure our customers are legitimate. We do, however, challenge the way the control system has been established and is being implemented.

The control system must be structured to recognize trade as a positive foreign policy value, at least on a par with our efforts to deny support to potential enemies. Our security depends as much on our national economic health, our ability to develop new products and technology, and the way we are perceived in dealing with others at it does on denial and refusal to deal.

The classic example of our failure to examine issues from a national viewpoint is our trade relationship with the People's Repubic of China. Last year, the Commerce Department urged us to sell to the PRC to help their expanding petroleum industry. Commerce told us that it was in the American national interest to increase China's petroleum production which would lessen our dependence on OPEC and to expand an industry which would give China the potential to earn badly needed foreign exchange.

We made the necessary contacts with the PRC. Even though the President has changed the classification of China for export licensing purposes to the same status as other non-NATO countries, the Defense Department is unhappy with the new policy and will drag its feet should we apply.

In this matter, DOD has one foreign policy and the State Department, the Commerce Department, and the President seem to have another. All we ask is that our Government speak with one voice and send us clear signals. If we cannot sell to the PRC, then tell us up front and save us the sales costs, the trips to China and Washington, and the frustration, and please tell us quickly.

Our overriding concern with the export licensing system is the time it takes to get action on an application. By law, as a general rule, the process is supposed to take a maximum of 180 days for the total of all the involved agencies. But we find it frequently takes twice as long. Let me give you an example.

Late in 1981, we entered into an agreement with Tre Konsulter to serve us as our sales representative in Sweden. We submitted the license application January 18, 1982. Three weeks later, on February 22, the Department of Commerce told us we would need a letter of assurance in which Tre Konsulter had to agree that our computer would not fall into the wrong hands. Out of the hundreds of applications we filed, we never heard of such a requirement.

Tre Konsulter submitted the letter in early March. Three months later, we received confirmation they had been approved. We immediately resubmtted the license application. In early September, we learned DOD wanted an enhanced security certificate, yet another new requirement. To meet the negotiated requirement, Tre Konsulter had to agree to extensive security requirements which virtually doubled the cost of the equipment to them.

Finally, on October 21, 10 months after the initial application, the license was issued. We are very troubled by the specter of an enhanced security certificate requirement because a major selling feature of our computers is low cost. Obviously, a $50,000 computer becomes less aattractive if you have to spend another $100,000 to secure it.

Unfortunately, Tre Konsulter's story is not unique. In August 1982, we applied for an export license for a computer to be shipped to India as part of the United Nations Project InterAct. Almost 1 year later, the application was still pending. Eight months ago, we applied for a license so that we could sell the Israeli Government a computer to use in real time airframe simulation. That application is still pending.

I could go on and on. Delays occurred not just with original applications but with applications for spare parts as well. You can imagine the frustration of an overseas distributor who has had to wait months for the original license and then who faces similarly long waits to get spare parts.

There are provisions in the existing law which were designed to make certain that applications were processed in a timely manner. From reading the statute one would envision an orderly process which moves at a reasonable pace. Unfortunately, that is just not the case. For example, the Department of Defense is supposed to have a maximum of 60 days to act on an application to non-Soviet bloc countries, which Commerce submits to it for review.

For non-NATO countries, our experience is that it is the exception rather than the rule that DOD acts within 60 days. For example, on February 24, 1982, we were notified that an application for a license to South Africa had been referred to DOD. When we checked 4 months later, the application was still pending. We finally received approval on September 14, 1982.

I note that the Senate amendments to the Export Administration Act have shortened the time period for action on export licenses. It is a nice thought, but I cannot help but wonder why Government agencies will abide by a shorter time limit when they currently do not honor the present time requirements in existing law.

Unless some teeth are put into the provisions, the time limits are virtually meaningless. Congress must make certain the DOD response to a time limit is fast action on the merits of the application and not a summary denial. We do not want anyone saying, "If you push us we will say no."

The implications of the current licensing situation for FPS are grave. On the one hand, we see a large potential overseas market. On the other, the present system frustrates our efforts to develop and sustain loyal customers overseas. Confronted with these difficulties, customers we have carefully developed will begin looking elsewhere for alternative products.

This gives potential foreign competitors a valuable opportunity to establish a foothold. Moreover, we will lose the distributors we have recruited and trained. If we lose a distributor, then we either have to give up the market altogether or begin selling direct, a logically difficult and expensive proposition.

Delays impose costs on our U.S. operations as well—inventory costs, costs in remanufacturing, and cost of money. There are other more subtle costs. It is difficult to make long-term commitments for major R&D projects or for major expansion efforts if we cannot predict with some confidence what our potential foreign revenues will be.

We are confident that our product can beat any foreign competitor's when compared on the merits. However, when we add the vagaries of the U.S. export license system into the equation, we become less confident. Multiply the FPS experience by hundreds of other companies and hundreds of other products, and you find the export licensing policy discourages trade.

When you consider the delays of the control process, the outright ban on some exports and imports, and the manipulation of others for foreign policy reasons, all foreign trade seems to be under some form of attack. If we do not begin to look at the larger picture, one day we will discover we have built a wall around our country through which very little can pass.

The barriers we are putting in place are having real economic impact on Americans by depriving them of jobs, of foreign markets which will lower domestic unit costs and pay for research, and of foreign trade earnings which can help capitalize new industries.

It is time to review trade issues in the eyes of our foreign customers. If a foreign firm wants our high technology products and then finds out there will be a multi-month delay in licensing and that later on for foreign policy reasons, national security reasons, or both, spare parts and upgrades would be denied, he will head for a foreign vendor. If no foreign vendor is available, he will make do with less.

If a Japanese firm wants to buy our raw material at a time when we want them to buy American goods, it seems irrational to say that there is a limited shopping list and raw materials are not on it. We need the increased economic efficiences brought about by increased trade and good relations with Japan that being a reliable trading partner creates.

In a world economy that demands we sell to foreign buyers to survive in business and as a country, this ad hoc trade policy is a disaster. We must stop looking at trade on an issue-by-issue basis and look at overall trade relationships. We need a coherent policy framework for our own economic wellbeing and in the interest of world peace.

Floor debate on the Export Administration Act will begin in another week or two. I hope you will all examine that act carefully to make sure it does not allow Government agencies to limit exports of high tech manufactured goods and raw materials in a way that serves their narrow mission rather than the larger national interest in a healthy export trade.

Specifically, I hope you will find a way to force the licensing process to work more rapidly so that we can restore our credibility with foreign customers. I am confident that this can be done without sacrificing technology security.

[Mr. Winningstad's prepared statement follows:]

PREPARED STATEMENT OF C. N. WINNINGSTAD

Mr. Chairman and members of the subcommittee, I am C. N. Winningstad, chairman of Floating Point Systems [FPS] of Beaverton, Oreg. I appreciate the opportunity to testify about our overall trade policy and, in particular, my company's experience with the Export Administration Act.

Floating Point designs, manufactures, and markets special purpose computers called array processors, which perform complex mathematical calculations at very high speed for low cost. We are part of "high technology" industry which is being talked about so much these days.

Like many other high tech companies, FPS is a relatively new and fast growing company. We opened our doors for business in 1971 with 5 employees. That year we had $125,000 in sales. Today we have nearly 1,400 employees and our 1982 sales were over $86 million. Our growth has been dramatic, but the recent recession has taken its toll: in 1981 and 1982 we only doubled in size.

Let me try to explain in noncomputerese what an array processor does. Array processors are designed to be used in conjunction with a host mainframe or minicomputer. As a general rule, mainframe and minicomputers are designed for business applications, and they are relatively inefficient when it comes to complex mathematicaly computations, what I call "number crunching."

That's where an array processor comes in. The host computer transfers its number crunching tasks to our computer and it then transfers the results back to the host. Our equipment is much more accurate and faster than the host. In fact, our most powerful computer can do 12 million floating-point calculations per second with a precision of 15 decimal places. In comparison, only a few business oriented computers can do as many as one half million such calculations per second.

The largest application for our equipment is signal processing. Signal processing assigns a series of numerical values to a stimulus, such as a sound wave or a light wave, so that it can be analyzed mathematically and then translated into a picture. For example, the images from a CAT scanner which a physician analyzes are produced by signal processing.

Signal processing provides important analytical tools in many other areas as well. Using images of earth taken by satellite, petroleum explorers can analyze terrain thousands of miles away in the comfort of their own offices. The same petroleum engineers then know specifically where to acoustically analyze the earth in cross section to know where to drill for oil. Civil engineers use the photos to calculate how much dirt must be removed for major construction projects such as dams. Satellite images help meteorologists predict snowpack runoff and help avert natural disasters. The multispectral data, that is analysis from infrared, through visible light can alert agricultural officials to blight or infestation in time to prevent major crop damage.

FPS computers are also especially well-suited for simulation applications. Handling large complicated arrays of numbers is critical for simulation. As you can imagine, it may take hundreds of thousands of data points to describe a single characteristic or a potential event.

The manipulator arm workstation in the Space Shuttle provides perhaps the most highly publicized example of a simulation involving our equipment. The astronauts on the last Shuttle flight used the manipulator arm to put into space and retrieve a special satellite, proving the manipulation for launch and retrieval. The manipulator arm can weigh virtually nothing, and still function in a zero gravity field. However, because it is so light, the arm wouldn't function on earth for training purposes. So NASA contracted with C.A.E., Canada, which then used a computer to simulate space conditions in order to train the astronauts. A normal minicomputer could not make the necessary calculations fast enough to keep up in real time with the astronauts moving the controls. However, our product was able to make the necessary calculations five times faster than real time enabling the astronauts to get their training here on earth.

FPS sold its first product overseas in 1972. Last year our export sales totalled $14 million, accounting for about 24 percent of our total end user sales.

We carry on our foreign sales using a network of our own foreign sales offices and independent sales representatives. Our sales in North America, Europe and Japan are made primarily through our own offices located in the major market areas. Sales in other countries are made through independent distributors. For the most part, these are companies that handle a variety of computer and software lines in addition to our own. Our staff spends time in the field with these sales representatives to teach them about our products, and we also try to bring them back to Beaverton for training.

Altogether we have 12 overseas offices and 10 independent distributors. Our newest overseas sales office was opened in Japan in 1982. We are one of the few U.S. computer companies selling in Japan, but not manufacturing there. Overseas sales are obviously very important to us.

From where I sit, American trade policy looks like the accidental sum of a series of policy decisions on discreet issues. Whether to permit the import or export of a particular product is decided by the government agency and the involved interest group based on their own institutional concerns. The Government agencies worry about their narrow policy areas and the interest groups worry about job and market protection. Larger foreign policy questions appear to be forgotten.

For example, some of the government agencies which pass on export licenses worry about national security. They focus on potential military threats to the United States which might arise if advanced technology winds up in the wrong hands. They worry about U.S. exports helping Communist economies. If there are doubts, these agencies come down on the side of rejecting applications to protect security and deny help, because that is their mission.

Other players, in Congress and the agencies, have domestic economic interests in mind. Thus, when Congress limited Alaskan oil exports it worried about union labor on U.S. flag tankers and jobs in American shipyards.

The end result of this ad hoc policy making is an overall policy in which free trade is increasingly the exception rather than the rule. Contrary to popular belief that we are free traders and therefore "suckers" the United States is becoming as bad on trade issues as we perceive others to be. To appreciate the way we look from abroad, we should step back and look at ourselves with foreign eyes.

We now have voluntary or mandatory restrictions on a wide range of imports and exports including, automobiles, shoes, textiles, clothes, and specialty steel to name but a few. We have imposed "Buy American" requirements on thousands of tender offers at the Federal, State and local levels.

On the export side, we prohibit the export of oil from Alaska, and have limited grain exports and the export of logs from our national forests.

In the area of greatest interest to me, high technology, in addition to limiting exports with military potential to our adversaries, the Defense Department wants to prevent them from obtaining access to our technology through secondary sources. DOD is trying to extend limits to friendly nations who might re-export and to foreign manufacturers who might improve upon a product we export.

Other restrictions are less direct but they are no less noticeable. These involve delaying export licenses for foreign policy reasons. Our diplomats like playing with export licenses because a slow down in the process is a subtle and amorphous diplomatic tool that is hard to complain about but which sends an unmistakable signal.

The State Department is the one branch of government which should be able to rise above narrow economic interests and consider trade as part of our overall foreign policy. Yet ironically it uses trade as a "tool" to deal with other problems of foreign policy it considers more important.

Increasingly, trade policy is foreign policy and our economic relations with other governments, developed and developing, Communist and Socialist, Democratic and dictatorial determine the state of our overall relations with those governments.

We must not forget that the great wars of the early part of this century had trade and economic matters as their centerpiece. In the years before World War II the right wing militarists in Japan drew strength from their ability to point to the fact that Japan had been excluded from buying raw materials and selling in markets which it considered essential for its economic well being. The so-called "co-prosperity sphere" which the Japanese announced in the 1930's was a response to the economic policies of their foreign competitors.

My fear is that we have been so involved in the politics of East-West confrontation that we have forgotten the need to trade with the rest of the world. We have allowed the confrontation to dominate our trade policy and have lost sight of other important economic and political issues.

Before I go any further, let me say that FPS recognizes the importance of safeguarding access to certain critical technologies. Certainly the national security interest of the United States has to be a preeminent concern of all of us. FPS also recognizes that we make a pretty special product, one with important national defense applications. So we don't argue whether there should be controls and whether these controls should apply to our products. We make a fetish about being sure our customers are legitimate.

We do, however, challenge the way the control system has been established and is being implemented. The need to protect valuable American technology does not require that U.S. exporters become unreliable suppliers in the world marketplace. The goals of increasing U.S. sales abroad and at the same time keeping sophisticated technologies out of the hands of our enemies are not mutually exclusive.

The control system must be structured to recognize trade as a positive foreign policy value, at least on a par with our efforts to deny support to potential enemies. Our security depends as much on our national economic health, our ability to develop new products and technology and the way we are perceived as dealing with others, as it does on denial and refusal to deal.

The classic example of our failure to examine issues from a national viewpoint, and an example which should be of special concern to this subcommittee is our trade relationship with the People's Republic of China.

Late last year, the Commerce Department urged us to sell to the PRC to help their expanding petroleum industry. Commerce told us that it was in the American national interest to increase China's petroleum production which would lessen our dependence on OPEC and to expand an industry which would give China the potential to earn badly needed foreign exchange.

We made the necessary contacts with the PRC. Even though the President has changed the classification of China for export licensing purposes to the same status as other non-NATO countries the Defense Department is unhappy with the new policy and will drag its feet should we apply.

In this matter DOD has one foreign policy and the State Department, the Commerce Department and the President seem to have another. All we ask is that our government speak with one voice and send us clear signals. If we can't sell to the PRC, tell us that up front and save us the sales costs, the trips to China and Washington and the frustration. And please tell us quickly.

Our overriding concern with the export license system is the time it takes to get action on an application. By law, as a general rule the process is supposed to take a maximum of 180 days for all involved agencies. We find it frequently takes twice as long. Let me give you an example.

Late in 1981 we entered into an agreement with Tre Konsulter, a wholly owned subsidiary of Volvo, to serve as our sales representative in Sweden. Tre Konsulter ordered one of our computers to use in their consulting work and as a customer demonstration system. We submitted the license application on January 18, 1982.

Three weeks later, on February 22, the Department of Commerce told us we needed a "Letter of Assurance" from the Volvo subsidiary. In the letter, the company had to agree to steps which would guarantee that our computer did not fall into the wrong hands.

This was the first time we had ever heard of a "Letter of Assurance". Because we have a staff of five people who file about 150 applications a year, you can imagine our surprise at learning about this heretofore unknown requirement. Undaunted, we told our Swedish representatives that they had to submit the letter to the U.S. Consul in Sweden. The U.S. Consul would then forward it to the Department of Commerce, which would then put Tre Konsulter on the list of approved consignees for Sweden. Once on the list, Commerce was to notify us so that we could resubmit our license application.

Tre Konsulter submitted the letter in early March. Three months later, on June 4, we received confirmation that Tre Konsulter had been approved. The confirmation did not come in a formal Commerce Department notice. We ferretted out the information using informal channels which our export staff has developed within the Department. If we did not have these channels, I do not know how long it would have been before we knew Tre Konsulter had been approved.

A day after learning that Tre Konsulter had been approved, June 4, 1982, we resubmitted the license application. On July 7 we were told that the application would not be referred to the Defense Department for review.

Based on this information, we told Tre Konsulter that we expected action within 2 months.

On July 13 we found that we were misinformed and that the application was sent to the Department of Defense. In fact, it had gone to DOD on June 23, 2 weeks before we were told they were not involved.

Such misinformation is terribly damaging to our credibility with our overseas customers. It is embarrassing and frustrating when we keep pushing the delivery dates back because of unforeseen administrative requirements.

Early in September, we learned DOD wanted an "enhanced security certificate," a requirement which we had not known existed. After repeated inquiries, we were finally told that the details of this "enhanced security certificate" would have to be negotiated between the United States and the Swedish Government.

To meet the negotiated requirement Tre Konsulter had to pay a representative of the Swedish Government $500 an hour to do an evaluation of the proposed computer security system. Tre Konsulter had to agree to maintain our computer in a secure room, keep a log of everyone who entered the room, employ no foreigners, and inform in advance of any visits by foreign nationals. The security requirements virtually doubled the cost of the computer to Tre Konsulter.

Finally, on October 4, 1982, the security site check was completed, and we filed the security certificate with the Department of Commerce. On October 21, 10 months after the initial application, the license was issued.

We are very troubled by the specter of an "enhanced security certificate" requirement for other foreign customers, because, a major selling feature of our computers is the low cost. Obviously, a $50,000 computer becomes less attractive if you have to pay $100,000 to secure it.

Elaborate security precautions might make sense if equally stringent requirements were imposed uniformly on all our computers. However, FPS computers are in such relatively accessible places as university computer rooms here and abroad, making it silly to impose such requirements on one customer.

Unfortunately, the Tre Konsulter story is not unique. In August 1982, we applied for an export license for a computer to be shipped to India as part of the United Nations' "Project Interact." Almost a year later, the application is still pending. Eight months ago we applied for a license so that we could sell the Israeli Government a computer to use in real-time airframe simulation. That application is still pending. I could go on and on.

Delays occur not just with original applications, but with applications for spare parts as well. You can imagine the frustrations of an overseas distributor who has had to wait months for its original license and who then faces similarly long waits to get spare parts.

Throughout its existence, FPS has operated on the principle that reliability develops loyalty. It is a principle that has served us well in the United States. Our customers know we produce a highly reliable product and combine it with prompt and efficient service. Unfortunately, we have not been able to apply this principle with our international customers, not through any fault of our own, but because of American trade policy. Simply put, this policy prevents us from being reliable suppliers.

There are provisions in the existing law which were designed to make certain that applications were processed in a timely manner. From reading the statute, one can envision an orderly process which moves along at a reasonable pace. Unfortunately, that's just not the case.

For example, the Department of Defense is supposed to have a maximum of 60 days to review and act on applications to non-Soviet bloc countries which Commerce submits to it for review. For non-NATO countries, our experience is that it's the exception rather than the rule when DOD acts within 60 days. For example, on February 24, 1982 we were notified that an application for a license to South Africa had been referred to DOD. When we checked 4 months later, the application was still pending. We finally received approval on September 14, 1982.

I note that the Senate amendments to the Export Administration Act have shortened the time periods for action on export licenses. It is a nice thought, but I can't help but wonder why Government agencies will abide by a 60-day time limit, when they currently don't honor the 90-day time requirements in existing law. Unless some teeth are put into the provision, the time limits are virtually meaningless.

Congress must make certain the DOD response to a time limit is fast action on the merits of the application—not a summary denial. We don't want anyone saying "If you push us we'll say no."

The implications of the current licensing situation for FPS are grave. On one hand, we see a very large potential overseas market. But on the other hand, the present system frustrates our efforts to develop and sustain loyal customers overseas, makes it difficult to keep foreign distributors, and kills the cost advantages of our product.

Many of our customers are used to the export license systems of the Western European countries and Japan, so they are familiar with the concept, and expect some delay. However, they are absolutely staggered at the time it takes to obtain a U.S. license, compared to the 2 to 4 weeks it takes the Western European countries and Japan to process applications.

Confronted with the difficulties, customers we have carefully developed will begin looking elsewhere for alternative products. This gives potential foreign competitors a valuable opportunity to establish a foothold.

Moreover, we will lose the distributors we have recruited and trained. Distributors lose face with their own customers when we can't deliver computers and spare parts on time. If we lose a distributor, we then either have to give up the market altogether or begin selling directly, a logistically difficult and expensive proposition.

Delays impose costs on our U.S. operations as well—inventory costs, costs in remanufacturing, and the cost of money. There are other, more subtle, costs. It is difficult to make long-term commitments for major R&D projects or for major expansion efforts if we cannot predict with some confidence what our potential foreign sales revenues will be.

We are confident that our product can beat any foreign competitors when compared on the merits. However, when we add the vagaries of the U.S. export license system into the equation, we become less confident.

Multiply the FPS experience by hundreds of other companies and hundreds of other products, and you find an export licensing policy that discourages trade.

When you consider the delays of the control process, the outright ban on some exports and imports, and the manipulation of others for foreign policy reasons, all foreign trade seems to be under some form of attack. High tech and low tech, manufactured goods and raw materials alike, are equal targets for those seeking restrictions. If we don't begin to look at the larger picture, we will one day discover we have built a wall around our country through which very little can pass.

The barriers we are manufacturing are having real economic impact on Americans by depriving them of jobs, of foreign markets which will lower domestic unit costs and pay for research, and of foreign trade earnings which will help capitalize new industries.

The barriers are having a foreign policy impact by making us look hostile to our allies and by undercutting overtures to countries such as China.

It is time to review trade issues through the eyes of our foreign customers. If a foreign firm wants our high technology products, and then finds out that there will be a multi-month delay in licensing and that later on, for foreign policy reasons, national security reasons, or both, spare parts and upgrades may be denied he will head for a foreign vendor. If no foreign vendor is available he will make do with less.

If a Japanese firm wants to buy our raw materials at a time we tell them we want them to buy American goods, it seems mad to say that there is a limited shopping list and raw materials are not on it. We need the increased economic efficiencies brought about by increased trade and the good relations with Japan that being a reliable trading partner creates.

In a world economy which demands that we sell to foreign buyers to survive as businesses and as a country, this ad hoc trade policy is a disaster. We must stop looking at trade on an issue by issue basis and look at overall trade relationships. We need a coherent policy framework for our own economic well being and in the interest of world peace.

Floor debate on the Export Administration Act will begin in another week or two. I hope you will all examine that act carefully to make sure it doesn't allow government agencies to limit exports of high tech manufactured goods and raw materials in a way that serves their narrow mission rather than the larger national interest in a healthy export trade. Specifically I hope you will find a way to force the licensing process to work more rapidly so that we can restore our credibility with foreign customers.

Senator MURKOWSKI. Thank you, Mr. Winningstad.

Tell me, with regard to the current structure of the agencies that are traditionally responsible for trade policy—Commerce, State, U.S. Trade Representative—do you feel that from this framework we can work effectively, or do you think that the framework has to be changed dramatically or responsibilities centralized?

What positive suggestions do you have for changing it so that it can work? As you say, it does not work.

Mr. WINNINGSTAD. I think that the intentions of the agencies basically are good. I think that if there is an overall policy to guide them within their individual agencies they can do an easier job of conforming with what our national policy requires.

Further, I think we can arrange it so that if one or more of the individual departments has a legitimate complaint that there be some method of arbitration with teeth in it which will allow a decision to be made when inevitably some concern in one department is in conflict with the concerns of another department.

Senator MURKOWSKI. Well, then, who do you suggest should be determining policy in the administration? Somebody has got to lay the ground rules.

Mr. WINNINGSTAD. I would suggest that the Department of Commerce could certainly be the focal point of that, since at the present time they are certainly the focal point of the licensing process.

Senator MURKOWSKI. I think Senator Roth has introduced legislation with regard to this particular area. I am sure he would welcome your testimony at the appropriate time, or maybe you have already availed yourself.

Tell me, what is your own view about the restrictions prohibiting Alaskan oil exports? Should the free market determine where it will go?

Mr. WINNINGSTAD. Well, again my view is the broad view that the Alaskan oil issue is another example of one particular area being looked at very narrowly, based on some narrow interests, and I think that whether we are talking about wheat or Alaskan oil or logs or computers we should take the large view and see how it interacts with the best interests of the United States in general.

Senator MURKOWSKI. Well, of course, it is pretty hard to give a degree of comfort to the maritime interests if you tell them you are going to displace their carriage with foreign bottoms. The owners of those ships have invested and gone into debt, because that is the way the rule was laid out in the requirement of the enforcement of the Jones Act, which is applicable to the carriage between two American ports.

And suddenly you come along and change the rules. You leave them hanging. What is your attitude on that?

Mr. WINNINGSTAD. Well, I am afraid that I am not expert in the area, but what I would observe is that as a result of the Jones Act there are considerably fewer sailors around to man ships, and I think that in the best interests of the maritime unions they should reexamine their policy and see if they cannot gain broader appeal.

That is my own personal opinion, and I do not claim to be an expert in the manner. But I think that overall problem of oil is pretty clearly in the best interest of the United States to do what we can to counterbalance the OPEC problem.

Senator MURKOWSKI. Well, obviously from your testimony you support free trade, but the realities that exist in the world today seem to indicate that cargo preference is a very real thing. We see in France, I think I mentioned yesterday, two-thirds of the oil that comes into France is in effect coming in under a cargo preference arrangement or at least approval of the Government, because the reality is that we cannot depend on each other's merchant marine fleets to maintain the supply capability.

And from the national defense standpoint that has to be addressed. You can believe in supporting free trade and allowing the carriage to move in foreign bottoms, but, by the same token you have to be prepared to have a substantial shipping capability in the event of national emergency standing by, which, you know, you face a point of diminishing returns.

Is it better to consider some type of requirement that the oil be moved in U.S. bottoms since you have already dictated that that is the way this particular oil has to move?

Mr. WINNINGSTAD. Well, again I do not claim to be expert in this area, but I feel certain that the bottoms will become available one way or another and I am certain that problem can be solved.

Senator MURKOWSKI. I very much appreciate your testimony and would again invite you to submit any additional statements or we may present some questions to you within the next 2 weeks. And thanks again. We wish you a good afternoon and good day.

Mr. WINNINGSTAD. Thank you, Senator.

Senator MURKOWSKI. Our next group will be a panel group consisting of Mr. Howard Marlowe, associate director of the AFL–CIO here in Washington; Mr. Jack Goldstein, vice president and senior economist, the Overseas Shipholding Group in New York; and Dr. Mark Cooper, research director, Consumer Energy Council of America in Washington, D.C.

I welcome you gentlemen as a panel group. We look forward to your testimony. I would like to again remind you as well as the others that the text of your prepared remarks, if you care to summarize them, will be submitted for the record.

It says here that Mr. Marlowe is first, but any particular order that you gentlemen would wish would be quite satisfactory to the chairman.

STATEMENT OF HOWARD MARLOWE, ASSOCIATE DIRECTOR, AFL–CIO, WASHINGTON, D.C.

Mr. MARLOWE. Thank you very much, Mr. Chairman. On behalf of the Coalition to Keep Alaska Oil, I thank the subcommittee for this opportunity to express our views on the export of Alaskan oil. This is the fourth time this year that we have appeared before a congressionally sponsored forum to state our views and to answer any and all questions.

Our prepared testimony has been submitted to the subcommittee. In addition, we have testified at length this year before the House Foreign Affairs Committee and the Senate Banking Committee on this subject. Therefore, in my remarks this afternoon I will be quite brief.

I would like first to respectfully correct the statement made by the chairman at yesterday's hearing. I am employed by the AFL-CIO and not by the shipping industry. Our organization, as I am sure the chairman knows, represents 99 international unions and 14 million members, some of whom work aboard ships.

The Coalition To Keep Alaska Oil, on whose behalf I appear today, includes a broad cross section of membership from consumer, labor, agricultural, energy and industrial interests. In short, far more than maritime labor and the shipping industry support the continuation of the current restrictions on the export of Alaskan oil.

We firmly believe that the existing restrictions on the export of Alaskan oil contained in section 7(d) of the Export Administration Act have proved highly beneficial to our Nation as a whole. Section 7(d) establishes a clear policy preference that the primary use of that oil is to be for domestic purposes. That policy was established by Congress in 1973, and because it has worked well for the United States it has been strengthened and reaffirmed over the years.

Currently, 42 Senators have signed on to legislation, S. 1159, introduced by Senators Hatfield and Cranston, that would extend the current provisions of section 7(d) indefinitely, and 235 Representatives are supporting an identical bill introduced in the House of Representatives by Representatives McKinney and Wolpe.

Both the House Foreign Affairs Committee and the Senate Banking Committee have recently reported out legislation extending the provisions of section 7(d). In short, there continues to be broad congressional support for continuing the restrictions on the export of Alaskan oil. This broad support reflects the strong support among a wide variety of interests outside of Congress and among the public for the provisions of section 7(d).

I submit for inclusion in the hearing record a sampling of that support in the form of letters and statements from the Consumer Federation of America, the American Public Power Association, the National Farmers Organization, the Consumer Energy Council of America, the National Council of Farmer Cooperatives, Sun Oil Co., the AFL-CIO and several of its affiliates, the Chicago Bridge and Iron, and Northville Industries, and also ask for the subcommittee's permission to submit for the hearing record within a matter of a few days a statement from the United Auto Workers which will particularly address some of the subjects of trade.

Senator MURKOWSKI. Without objection, they will be entered in the record.

[The information referred to follows:]

CONSUMER FEDERATION OF AMERICA,
Washington, D.C., May 19, 1983.

DEAR SENATOR: The Consumer Federation of America urges you to oppose any and all amendments to the current restrictions on the export of Alaskan oil which are part of the Export Administration Act. These restrictions provide significant long-term benefits to U.S. consumers while also permitting Alaska oil exports that benefit our national interest.

The existence of the current restrictions has provided American consumers with Alaskan oil that is priced lower than comparable domestic or imported crude oil. They have also made Alaska oil available for our Strategic Petroleum Reserve. Thus, the restrictions have provided current, tangible benefits to consumers (and our economy as a whole) while increasing our capacity to respond to possible oil import disruptions in the future.

The restrictions also assure that Congress will have the opportunity to give full consideration to any proposal to export Alaskan oil. In addition, they require that any export be made subject to a contract that can be terminated in the event of a U.S. national emergency.

No other statute provides the kind of consumer and national interest protections as contained in the Alaska oil export restrictions of the Export Administration Act. When this issue comes before the Senate Banking Committee within the next few days, we urge you to oppose any and all amendments to the current restrictions.

Sincerely,

STEPHEN BROBECK,
Executive Director.

NATIONAL FARMERS ORGANIZATION,
Washington, D.C., July 14, 1983.

DEAR SENATOR: Our organization, consisting solely of farmers and ranchers, strongly supports maintaining section 7(d) of the Export Administration Act, which restricts exports of Alaskan oil. We urge you to oppose any and all amendments to weaken this section.

Our concern with these provisions stems from the current inequities in U.S.-Japan trade relations. As you know, the push to lift the restrictions on exports is generated by proposals to export Alaskan oil to Japan. We believe that because such an exchange would cut our trade deficit with Japan substantially, any incentives Japan might now have to reduce its trade barriers to our agricultural products would be drastically reduced, if not totally eliminated.

It should be noted, moreover, that our overall balance-of-trade picture would not be improved if exports were to occur. Indeed, based on the current prices of oil imports compared to Alaskan oil prices, our balance-of-trade situation could be worsened.

American farmers have been financially strapped for several years. Higher energy bills based on a policy which would encourage exports of our domestic oil and imports of Middle Eastern oil would not be positively received by this sector of the economy.

We appreciate your help on this issue.

Sincerely,

CHARLES L. FRAZIER,
Director, Washington Office.

CONTINUING THE EXPORT RESTRICTIONS ON ALASKAN OIL

Whereas, established national policy preserves for domestic purposes the use of petroleum from the North Slope of Alaska, and, under the Export Administration Act of 1979, oil may not be exported unless the President finds, and Congress concurs, that: such export is in the national interest; will result in lower oil acquisition costs to refiners; and most savings will be passed on to consumers, and

Whereas, the act's export restrictions will expire on September 30, 1983, and H.R. 1197 and S. 1159 have been introduced in the House and Senate which would extend these export restrictions, and

Whereas, the administration has proposed to allow the act's export restrictions to expire in order to permit the sale of Alaskan gas to Japan, and

Whereas, Alaskan oil now provides 1.6 million barrels per day for domestic use, or 20 percent of total U.S. oil consumption, at a price of $2.50 per barrel less than imported oil, and

Whereas, the United States still imports one-third of its oil supply, and exporting Alaskan oil would increase foreign oil imports by 15 percent; would reverse the longstanding goal of achieving energy independence; and could adversely affect national security goals, in view of the instability of the world oil market, and

Whereas, the substitution of more expensive foreign oil for Alaskan supplies would increase oil costs to U.S. consumers by $1.7 billion annually, including $600 million on west coast markets and $1.1 billion on Gulf Coast markets;

Now, therefore, be it resolved: that the American Public Power Association supports enactment of H.R. 1197 and S. 1159, which amend the Export Administration Act of 1979 to extend the provisions relating to the export of domestically produced crude oil.

Adopted May 3 by the membership of the American Public Power Association at the 1983 Annual Conference held in Phoenix, Arizona.

AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS,
Washington, D.C., May 20, 1983.

DEAR SENATOR: When the Senate Banking Committee begins its May 25th mark-up of the Export Administration Act legislation, the AFL-CIO urges you to support an extension of the current restrictions on the export of Alaska oil, which are due to expire on September 30th.

Adopted in 1979, these restrictions assure that no export of Alaska oil can take place unless it is in the national interest and will benefit U.S. consumers. Without the restriction, Alaska oil could be shipped overseas to the detriment of our national security. Similarly, its export could result in an increased U.S. dependence on imported oil. And an export of Alaska oil could cause U.S. consumers to pay more for gasoline and home heating oil.

It is the purpose of the restrictions contained in section 7(d) of the Export Administration Act to assure that both the President and the Congress give full consideration to all pertinent facts before approving an export of Alaska oil. In addition, only section 7(d) requires that any export of this oil be made pursuant to a contract that can be terminated in the event of a national emergency.

Similarly, it makes no sense to remove these vital protections for a portion of the Alaska oil production while retaining them for the remainder. If a proposed export of Alaska oil is in the national interest and will benefit U.S. consumers, it can be approved under current law. To exempt any portion of the North Slope production from meeting these conditions is to open the door to oil exports that will not be in the national interest.

The AFL-CIO urges you to support the language of the current restrictions on the export of Alaska oil contained in section 7(d) of the Export Administration bill to be marked-up in Committee and to oppose any and all amendments to that language.

Sincerely,

RAY DENISON,
Director, Department of Legislation.

CONSUMER ENERGY COUNCIL OF AMERICA,
Washington, D.C., May 19, 1983.

DEAR SENATOR: In the near future, the Senate Banking Committee will be marking up the Export Administration Act. Section 7(d) of the Act specifies that Alaskan oil should not be exported unless exports will result in lower prices to consumers and are in the national interest. The Consumer Energy Council of America [CECA], a broad-based coalition of major national consumer, labor, farm, senior citizen, public power, rural electric cooperative, urban and low income organizations, urges you to reaffirm that commitment by preserving section 7(d) as is, with no weakening amendments whatsoever.

As we stressed when we testified before the Committee several weeks ago, to date, there has been no finding that exports would meet either of those conditions. In fact, we estimate that exporting Alaskan oil would cost consumers between $1 and $2 billion a year, since domestic oil would be replaced with more expensive foreign oil.

In fact, at a time when the United States still imports nearly one-third of its oil, exporting Alaskan oil would increase American imports by approximately 15 percent, with most of that increase coming from politically unstable sources in OPEC the Middle East. This would seriously compromise America's national energy security. Exporting Alaskan oil would also drydock as much as half of the U.S. tanker fleet and, once our shipping infrastructure is dismantled, we would have a much reduced capacity to move oil supplies during a national emergency or international supply disruption.

Given these consequences, it would be ill-advised not to extend the safeguards contained in the Export Administration Act. Your support for the preservation of section 7(d), and rejection of any and all weakening amendments to the Export Administration Act, will ensure that the consumer, energy, and national interests are guaranteed as a condition to exporting Alaskan oil.

Sincerely,

ELLEN BERMAN,
Executive Director.
MARK COOPER,
Research Director.

AFL-CIO MARITIME COMMITTEE,
Washington, D.C., May 13, 1983.

Exporting of Alaskan North Slope oil to Japan is now being considered by some within the Administration. The exportation of this oil to a foreign source would be detrimental to our national interest.

The Export Administration Act of 1979 which expires this September stipulates that this Alaskan North Slope oil can only be exported to a foreign source if the President, with the approval of Congress, determines that to do so would be in the national interest.

On April 27, 1983, Senators Hatfield and Cranston along with 17 additional colleagues, introduced S. 1159 which would amend the Export Administration Act of 1979 to extend the provision relating to the export of Alaskan oil.

We ask that you join these Senators in cosponsoring S. 1159, which will protect existing restrictions on oil exports and preserve energy security for the United States.

Respectfully,

TALMAGE E. SIMPKINS,
Executive Director.

INTERNATIONAL UNION, UNITED AUTOMOBILE, AEROSPACE & AGRICULTURAL
IMPLEMENT WORKERS OF AMERICA—UAW,
Washington, D.C., May 9, 1983.

DEAR SENATOR: At the present time, federal law (the Export Administration Act) prohibits the export of Alaska oil to other countries except under certain limited conditions. The UAW believes this restriction should be retained and urges you to support it.

When Congress adopted legislation to expedite construction of the Alaska Pipeline, it provided that oil moving through the pipeline could not be exported. The policy was subsequently modified to permit such export if it were found by the President, with Congressional concurrence, to be in the national interest. This modified restriction, a part of the Export Administration Act, expires in September of this year.

A bipartisan group of Senators has introduced S. 1159 to extend the restriction indefinitely. The UAW urges you to support this measure and to cosponsor it.

It is important to remember that Alaska oil can be exported if such an action is found to be in the national interest and if benefits from it would accrue to the American consumer. We hope you will look into this issue and after doing so, you will reach the same conclusion that we have—that approval of S. 1159 would be in the interest of our country and that it should pass.

Sincerely,

DICK WARDEN,
Legislative Director.

UNITED STEELWORKERS OF AMERICA,
Washington, D.C., July 18, 1983.

DEAR SENATOR: As you know, the Export Administration Act is due to expire on September 30, 1983. The Act provides the guidelines for controlling strategic exports for reasons of national security, foreign policy and short supply. In particular, the Act contains a restriction that prohibits the exportation of Alaska oil to other countries except under certain conditions, i.e., such exports were found by the President, with congressional concurrence, to be in the national interest and such cost savings would be passed through to American consumers.

The United Steelworkers of America believes that these restrictions should be retained. Current efforts to export Alaska oil to one country in particular, Japan, are misguided and could, if successful, lead to disastrous consequences for our economy.

Export proponents claim that our bilateral trade difficulties with Japan would markedly improve with the sale of Alaska oil. Nothing could be further from the truth. Alaska oil exports would merely cover up the fundamental problems which have created the huge deficits in our trade with Japan. It is a political "quick fix" which does nothing to alter the distortions in this trade, i.e., the exchange of American raw materials for Japanese finished goods. In addition to perpetuating this unhealthy economic relationship, this proposal, if implemented, would reduce pressure on both governments to undertake serious remedies to correct this situation. Japanese trade barriers to American products would remain in place while Japanese goods continue to flood the American market.

S. 1159, legislation to extend indefinitely the restriction on Alaska oil exports, has been introduced by Senators Hatfield and Cranston and currently enjoys the cosponsorship of 40 Senators.

The United Steelworkers of America fully supports this bill and urges your cosponsorship of this legislation as well as the extension of restrictions as embodied in the Export Administration Act Amendments of 1983, S. 979, when it goes to the Senate floor.

Sincerely,

JOHN J. SHEEHAN,
Legislative Director.

INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS,
Washington, D.C., May 19, 1983.

INDIVIDUAL LETTER SENT TO ALL MEMBERS ON SENATE BANKING COMMITTEE

Dear Senator: The Senate Banking Committee is scheduled to mark-up the Export Administration Act bill on May 25th. We urge that you support an extension of the current restrictions on the export of Alaskan oil, which are a part of this bill.

For a decade, Congress has sought to promote U.S. energy self-reliance through policies that encourage the maximum production and use of various domestic sources of energy. On several occasions during the past 10 years, Congress has made it clear that this policy of energy self-reliance requires that priority be given to the domestic use of oil production from the North Slope of Alaska. Toward that end, restrictions were adopted in Section 7(d) of the Export Administration Act that permit exports of Alaska oil only if they benefit the national interest.

We see no reason to eliminate or alter these restrictions. They have provided the U.S. with a large amount of Alaskan oil at relatively cheap prices. They have enabled us to reduce our reliance on imported oil. And they have helped to provide a needed measure of energy security in the event our supply of imported oil is once again disrupted.

Accordingly, we urge your support for the restrictions contained in Section 7(d) and your opposition to any and all amendments to the language of that section.

Sincerely,

WILLIAM W. WINPISINGER,
International President.

OIL, CHEMICAL AND ATOMIC WORKERS INTERNATIONAL UNION,
Washington, D.C., May 19, 1983.

Hon. JAKE GARN,
Chairman, Senate Banking, Housing and Urban Affairs Committee,
Washington, D.C.

DEAR SENATOR GARN: We urge you to oppose any and all amendments to the current restrictions on the export of Alaskan oil that are contained in Section 7(d) of the Export Administration Act. Any such amendments would be contrary to the interests of our members and contrary to the interests of the nation.

The existing restrictions on the export of Alaskan oil make it clear that an export can take place if it will not harm our national security and if it will benefit American consumers. When the Trans-Alaska Pipeline Act was adopted a decade ago, Congress made the clear determination that priority should be given to the domestic use of Alaska oil. That policy decision, which has been reaffirmed by Congress on several subsequent occasions, has worked to the benefit of the U.S. it has meant that a large and secure supply of domestic oil has been available for use by American refineries and for our Strategic Petroleum Reserve, thus diminishing our need to rely on insecure sources of imported oil.

In short, the current restrictions on the export of Alaskan oil are working to benefit all Americans. To relax those restrictions is to permit a few narrow interests to profit at the expense of the national interest. We urge you to oppose any such relaxation when the Senate Banking Committee marks-up the Export Administration Act next week.

Sincerely,

NOLAN W. HANCOCK,
Director, Citizenship-Legislative Department.

CITIZEN/LABOR ENERGY COALITION,
Washington, D.C., May 20, 1983.

Hon. CHRISTOPHER DODD,
U.S. Senate,
Washington, D.C.

DEAR SENATOR DODD: The Senate Banking, Housing and Urban Affairs Committee will soon begin consideration of the Export Administration Act reauthorization. The Citizen/Labor Energy Coalition believes that the current restrictions on the export of Alaskan oil contained in Section 7(d) of that Act are essential in order to protect consumers and prevent increased dependence on foreign oil. Therefore, we respectfully request your support for retaining Section 7(d) as currently written, without any modifications or weakening amendents.

The importance of oil to the U.S. economy is obvious. Yet, we continue to import one-third of our oil needs, a percentage which is predicted to rise as the economy recovers. Given our experiences with supply disruptions over the past decade, the nation should be following a policy of husbanding critical and diminishing oil reserves. The export of Alaskan oil is directly counter to that policy. It will increase our short-term dependence and jeopardize our long-term security by allowing the rapid depletion of limited domestic oil supplies.

Moreover, the cost of transferring U.S. oil to Japan and replacing it with more expensive foreign oil, will raise prices to consumers. It is likely that Saudi oil, comparable in quality to Alaskan crude but higher-priced and far less secure, would be used as a substitute. Thus, not only would immediate costs rise but vulnerability to disruption would deepen.

There is no legitimate reason why Congress should reverse itself and allow export of Alaskan oil without proper safeguards. The provisions in the Export Administration Act should be extended in order to prevent price increases and protect our valuable energy resources.

Sincerely,

ROBERT M. BRANDON,
Executive Director.

NORTHVILLE INDUSTRIES CORP,
Melville, N.Y., July 15, 1983.

DEAR SENATOR: When the Export Administration Act is addressed on the Senate floor, we urge you to support an extension of the current restrictions on the export of Alaskan oil, which are due to expire on September 30.

Through a cooperative venture with the Government of Panama and another U.S. company, Chicago Bridge & Iron Industries, Northville manages Petroterminal de Panama ("P&P"), the Panamanian company which owns and operates the oil pipeline across the Isthmus of Panama. In this capacity, we have been intimately concerned with the Alaskan oil export issue since the founding of PTP in 1976.

Northville and its partners undertook the $400 million pipeline project in reliance upon the U.S. Government's longstanding decision to restrict the export of Alaskan oil. First articulated 10 years ago in the Trans-Alaska Pipeline Act, that decision to restrict Alaska oil exports in particular has time and again been strengthened and reaffirmed. In 1976, the Ford administration ruled out the export of Alaskan oil. In 1977, Congress tighened the restrictions on exports, and two years later Congress further stiffened those restrictions. Finally, in 1981, the Reagan administration decided not to advocate the export of Alaskan oil.

If the government now abruptly changes direction and permits the export of even a portion of Alaskan oil, it would severely impact, if not bankrupt, this venture as well as similar ventures of others who have invested in transportation, storage and refinery infrastructure. Moreover, as that infrastructure crumbled, so would one key element of our national security; for, if there came a time when it was necessary to use Alaskan oil for domestic purposes, we would no longer possess the tankers and terminal facilities necessary to move that oil, and the pipeline that makes its transportation across Panama economical and efficient.

At the core of the current restrictions on the export of Alaskan oil lies a profound concern for America's energy security. It is no answer to that concern to argue that we are participants in a world oil market and to point out that the theoretical niceties of the laws of supply and demand should determine our access to vital oil resources in the years to come. With regard to oil, those supposed laws have failed all too often. Particularly in times of short supply, destination restrictions are placed on tankers for reasons wholly inconsistent with a free oil market.

If significant quantities of Alaskan North Slope oil are exported, America's dependence on other sources of supply—particularly the Persian Gulf—will be increased. This can have only one result: It will make this nation, its economy and its Mideast foreign policy more vulnerable to supply disruptions, whether caused by logistical foul-ups, political instability, or direct political pressure directed against us and our allies.

Replacing Alaskan oil with foreign oil of the same quality is likely to involve increased costs and a lessening of the downward pressure on imported oil prices now created by the assured availability of Alaskan oil. The lower cost of crude oil in America today, with its consequential benefits for our rate of inflation, is clearly related to this country's increasing energy self-sufficiency.

The impact on the Government of Panama should also not be ignored. Panama is an important ally in an unstable region. The canal is a resource vital to our security. If Alaskan oil is no longer shipped across the Isthmus of Panama, the Panamanian Government will lose projected revenues in excess of $100 million a year. This could have a diplomatically and economically destabilizing effect. Surely the need to avoid destabilization of a peaceful and vital democracy in Central America and to preserve a secure environment for the Panama Canal outweighs today any marginal foreign policy advantages cited in favor of export.

Finally, section 7(d) of the Export Administration Act contains a carefully thought out, long-standing and entirely rational set of criteria for determining when it is in the national interest to export Alaskan oil.

We urge you to support the extension of these restrictions.

Sincerely,

Harold P. Bernstein,
Chairman of the Board.

National Council of Farmer Cooperatives,
Washington, D.C., July 18, 1983.

Hon. Alan Cranston,
U.S. Senate,
Washington, D.C.

Dear Senator Cranston: This is in response to your inquiry regarding the National Council of Farmer Cooperatives' position on the export of Alaska North Slope [ANS] crude oil.

The National Council opposes the export of ANS crude oil. This vital source of domestic energy continues to contribute greatly to reduced dependence on unreliable foreign sources. No foreign sale of ANS crude oil should be permitted unless national security and consumer protection interests are fully taken into account, as required by law under the Export Administration Act. The National Council is pleased to endorse legislation which you introduced (S. 1159) to extend this authority.

Certainly, the temptation may exist to treat such considerations lightly in order to approve exports, either for short run tax revenue gains or to enhance foreign policy objectives. Some have even suggested that the exported volumes could be offset by contracts for crude oil from Mexico.

However, we must not let the temporary would oil glut lull this nation into a false sense of security. Experts concur that the possibility of another oil disruption in the near future exists, and indeed is likely. If ANS crude oil sales were made to an ally, such as Japan, the United States would be unable to redirect such volumes for domestic use without devastating foreign policy impacts. And there is no assurance that Mexico would maintain its sales to our country during a disruption.

Agriculture is critically dependent upon petroleum fuels on a timely basis for the maintenance of full food and natural fiber production. Cooperatives, as farmer-owned businesses charged with the responsibility of supplying much of this fuel, have long supported policies which are directed toward enhanced domestic energy self-sufficiency. The export of ANS crude oil would be counter to this objective.

Sincerely,

R. THOMAS VAN ARSDALL,
Vice President Farm Inputs and Services.

CBI INDUSTRIES, INC.,
Oak Brook, Ill., July 18, 1983.

Re Reauthorization of Export Administration Act, Alaskan Oil.

Mr. HOWARD MARLOWE,
Coalition to Keep Alaska Oil,
Washington, D.C.

CBI IS SENDING THE FOLLOWING TELEX TO U.S. SENATORS

DEAR SENATOR: Section 7(d) of the Export Administration Act prohibits the export of Alaskan crude oil, except under conditions found to be in the best interest of the United States. We urge you to work diligently for the continuation of section 7(d) in essentially its present form, for the following reasons:

1. At great cost to American industry a significant infrastructure has been put in place for transporting, refining and distributing Alaskan crude, an the value of that infrastructure would be diminished.
2. America is already dependent upon foreign oil and export of Alaskan crude will simply increase that dependency.
3. Export of Alaskan crude would occur in foreign tankers rather than in American tankers as required for coastwise trade by the Jones Act, and America's maritime fleet will be injured as a consequence.
4. Arguments that it is more economical to export Alaskan crude to Japan than to transport it to the oil deficient areas of America ignore the fact that, if Alaskan crude is lost for use in the Eastern United States, that deficiency will be made up by shipment of increased volumes of oil from the Middle East, at the same or even greater.

As a company that serves many different components of the energy industry worldwide, we are vitally interested in this issue and believe that the preservation of section 7(d) is essential to the American energy economy.

Very truly yours,

W. A. POGUE,
Chairman and President.

Mr. MARLOWE. Together we stand in support of the current restrictions and opposed to any effort to weaken them.

During the subcommittee's hearings a compromise proposal has been discussed. That proposal calls for exporting limited amounts of Alaska oil, perhaps 200,000 barrels a day or less, aboard U.S.-flag ships.

Mr. Chairman, the maritime-related members of our coalition certainly appreciate your support and concern for the U.S. maritime industry, but they and each of the other members of our coalition would like to go on record as strongly opposing such a compromise. Limited exports offer few of the alleged benefits of high volume exports, and all of their liabilities.

This proposal stands on shakier ground than the now-abandoned proposal to export large amounts of Alaska oil. In addition, we view it as a foot in the door, a first step along the road to high volume exports. This subject will be discussed during Mr. Goldstein's testimony.

We also point out that Alaska oil sells in U.S. ports for less than comparable domestic or imported crude oil. That means that the current restrictions benefit American consumers and that subject will be discussed by Dr. Cooper during his testimony.

There are those who have come before this subcommittee claiming that an export of Alaska oil would benefit our trade relations with Japan, but their testimony has almost uniformly recognized the fact that Japan's current trade policies have harmed basic United States industries. Successive Japanese Governments have recognized that economic and industrial development is not the exclusive province of either the private sector or the free market.

As with the recent cancellation of its voluntary agreement on automobiles, Japan has aggressively pursued trade policies that have been in its own self interest. It is folly to suggest that 200,000 barrels of Alaska oil per day or even more will change those policies, as indeed at least one of the witnesses appearing before us today has conceded.

Clearly, Japan would like Alaskan oil in order to reduce, even if it is only somewhat, its trade imbalance with the United States, but that reduction would provide no relief to the sectors of our economy that have been hurt by Japanese trade policies. In fact, it would reduce pressure on the Japanese to agree to trade concessions affecting U.S. agricultural products and manufactured goods.

Clearly also the State of Alaska stands to benefit from exports because its tax revenues will increase, and the free marketeers, some of whom have testified or will testify before this subcommittee, will rejoice with the 1983 version of what is good for General Motors is good for the United States.

It is a fair question to ask what U.S. national interest is served by exporting a scarce domestic energy resource instead of exporting goods using American labor. Certainly not U.S. consumers, U.S. farmers, U.S. workers, and those U.S. companies who have invested billions of dollars relying upon a national policy that Alaska oil would be used domestically.

You have heard today from representatives of the State Department, Energy, and the Special Trade Representative. The Commerce Department has previously testified on this subject before other committees, all in support in one way or another of lifting the restrictions on the export of Alaska oil. Much of this testimony refers to preliminary results of analytical studies.

The position of the witnesses you have heard is a subject of heated dispute within the administration. It has been going on for months with Departments such as Defense, Interior, and Transportation reportedly taking positions in opposition to the views expressed by the agencies that you heard today. In the end, it will be the President who will have to determine what the formal administration position will be on this subject.

I think it is important for us to recognize that we are not talking about a philosophical free market concept or a bargaining chip in some international version of the game of checkers. We are talking about the substantive merits of a law which provides for full consideration of U.S. national and U.S. consumer interests before Alaska oil is exported.

The burden rests on the proponents of export to show why the national and consumer interest tests of current law are inappropriate. It is a burden which witnesses here today say can be met, and, if so, we say why not make the proposal? Under the current law, there is absolutely nothing which stops this administation or any administration, which can show that the national interest and consumer interest will benefit from proposing to Congress that an export occur.

We believe that it is a burden on those who propose an export to show why the current test is somehow inappropriate, why consumer and national interests should not be fully considered by Congress and the administration before an export takes place. We believe that is a burden they cannot make.

[Mr. Marlowe's prepared statement follows:]

PREPARED STATEMENT OF HOWARD D. MARLOWE

On behalf of the coalition to Keep Alaska Oil, I thank the subcommittee for this opportunity to express our views on the export of Alaska oil. The membership of our coalition, which is listed in an attachment to this statement, is broad-based. We are composed of consumer, labor, agricultural, energy and industrial members, each of whom strongly supports an extension of the current restrictions on the export of Alaska oil.

Both the Senate Banking Committe and the House Foreign Affairs Committee have reported out legislation extending those restrictions. In addition, 38 Senators have joined Senators Hatfield and Cranston in sponsoring S. 1159, which extends the restrictions indefinitely; and 235 Representatives have sponsored identical legislation introduced in the House by Representatives McKinney and Wolpe. This is a clear demonstration of the broad-based support in the current Congress for maintaining the restrictions on the export of Alaska oil.

In fact, export restrictions on Alaska oil have had the support of Congress for the past decade. With passage of the Trans-Alaska Pipeline Act in 1973, Congress established a clear-cut national policy that the primary use of oil from the North Slope of Alaska was to be for domestic purposes. Because that policy has worked well for the United States, it has been reaffirmed and strengthened over the years.

The export restrictions contained in section 7(d) of the Export Administration Act simply assure that any export of Alaska oil would be in the national interest while also benefiting American consumers. They also require that any export be made pursuant to contracts which may be terminated in U.S. crude oil supplies are interrupted, threatened or diminished.

These restrictions are eminently reasonable. They are based on the presumption that crude oil is a scarce and precious resource for this country. Our economy depends on it, as do our Armed Forces. For the past decade, it has been a principle of our national energy policy that the United States should increase its reliance on domestic sources of energy so that we depend less on imported supplies of energy. Alaska oil used domestically is a significant factor in achieving that objective.

In time of national emergency, our armed forces need secure supplies of oil. Alaska oil stands ready as a dependable domestic source of crude oil. The use of American ships to carry Alaska oil to domestic ports has also helped to assure the availability of U.S.-flag ships with trained seagoing manpower. These resources are vital to our economy in both times of peace and hostilities.

The domestic use of Alaska oil has benefited the U.S. economy significantly. It has provided jobs in the steel and auto industries as well as many other sectors of our economy. It has also helped to maintain the vitality of many U.S. ports and the economies of the communities and regions they serve. Alaska oil also benefits U.S. consumers by providing crude oil that is at or below comparable grades of domestic or imported crude oil. In other words, every barrel of Alaska oil that we use to heat our homes or fuel our cars provides a downward pressure on the price we pay as consumers. And Alaska oil has been used to fill our Strategic Petroleum Reserve.

With all of these benefits, it is easy to understand the broad support in Congress for maintaining the policy preference to use Alaska oil domestically. Nevertheless, section 7(d) of the Export Administration Act establishes a procedure whereby the President may propose to Congress that an export of Alaska oil occur. That procedure simply requires the President and Congress to weigh the many benefits gained from the domestic use of Alaska oil against whatever benefits might accrue from an export of that oil.

The preference of the domestic use of Alaska oil is based on the fact that Americans have borne hardships and enormous costs as a consequence of our national dependence on imported oil. The difficulties created by oil shortages have created strong support among the American people for energy programs that enable the United States to conserve energy and expand the supply of domestic energy sources.

Nevertheless, there are persistent reports that Alaskan and Japanese interests are supporting a proposal which would remove the national and consumer protections contained in section 7(d). When these reports first surfaced several months ago, the Alaskan and Japanese interests touted the many alleged benefits of exporting several hundred thousand barrels of Alaska oil per day.

It is difficult to understand why a proposal with as many alleged benefits as this one cannot be submitted for the approval of Congress by the President. Section 7(d) certainly establishes the simple procedure for laying the issue before Congress, but the proponents of an export have chosen not to take this course. Instead, they argue simply for a removal of the protections afforded by section 7(d).

Not finding much congressional support for this idea, Alaska oil export proponents are reportedly taking a new approach. Now, they propose only a "limited" export of 200,000 barrels a day or less. Unfortunately, this proposal stands on less firm ground than high-volume exports. A "limited" export would provide small increases in revenue for the State of Alaska, little—if any—increase in revenue for the Federal Treasury, would be of little use to the Japanese, but would provide all of the liabilities of a high-volume export. It is the height of folly to urge that this country provide—without restriction—a portion of a precious and vital commodity such as crude oil to a country whose trade policies and practices have inflicted serious harm on the American economy.

Of course, Alaskan and Japanese interests favor a "limited" export because it is a "foot in the door": a first step along the road to their ultimate objective of achieving high-volume exports without the national and consumer protections of section 7(d) and without review and approval by Congress, as required by section 7(d).

The Coalition to Keep Alaska Oil opposes removing or relaxing the provisions of section 7(d), whether pertaining to all Alaska oil production or only a "limited" portion of that production. Nor is our opposition based on whose ships would be used to carry the exported oil.

Our position rests on the conviction that the provisions of section 7(d) protect vital national interests and assure the full involvement of Congress in any proposal to export Alaska oil. For these reasons, we will continue to urge Congress to give its continued support to extending section 7(d) of the Export Administration Act.

ORGANIZATIONS INVOLVED IN THE COALITION TO KEEP ALASKA OIL

AFL-CIO, American Institute of Merchant Shipping, American Maritime Association, American Maritime Officers Service, American Public Power Association, Americans for Indian Opportunity.

International Brotherhood of Carpenters, Chicago Bridge and Iron Co., Citizens/Labor Energy Coalition, Consumer Energy Council, Consumer Federation of America, International Longshoremens' and Warehousemens' Union, International Organization of Masters, Mates & Pilots, ILA, AFL-CIO, Joint Maritime Congress, Labor-Management Maritime Committee, Ladies Garment Workers, International Union.

International Association of Machinists, Marine Engineers Beneficial Association, District No. 2, Maritime Institute for Research and Industrial Development, National Council of Farmer Cooperatives, National Farmers Organization, National Farmers Union, National Marine Engineers Beneficial Association, National Maritime Council, National Maritime Union, AFL-CIO, Northville Industries.

Ogden Marine, Port of Portland, Seafarers International, Shipbuilders Council of America, Sonat Marine, The Sun Co., Transportation Institute, United Auto Workers, and the United Steelworkers of America.

[The following material was subsequently supplied for the record:]

COALITION TO KEEP ALASKA OIL, CLARIFICATION OF POINTS RAISED BY SENATOR MURKOWSKI

1. The oil surplus on the West Coast will continue to expand for the foreseeable future.

Our analysis of the West Coast oil situation raises questions over the likelihood that increasing volumes of Alaska oil will move eastward during the 1983-93 period. Factors that contributed to the increased eastward movement of Alaska oil over the 1978-83 period were: a 25 percent decline in West Coast petroleum consumption; a substantial increase (36 percent) in Alaska crude oil production; and, a rise (16 percent) in California oil output. Within this environment Alaska oil became a swing crude on the West Coast. As West Coast oil consumption declined and California production increased, Alaska crude oil was backed out of the West Coast market. A summary of salient statistics is presented below.

DISTRIBUTION OF ALASKA CRUDE OIL 1978-83

[In millions of barrels per day]

	West coast	Gulf, east coasts, Virgin Islands and Puerto Rico	Total [1]
1978	.831	.398	1.229
1979	1.013	.387	1.400
1980	1.027	.593	1.620
1981	.952	.657	1.609
1982	.823	.795	1.618
1983	.819	.848	[2] 1.667

[1] Includes production from Prudhoe Bay, Kuparuk and Cook Inlet.

[2] Data covers January to March.

Source: Alaska Oil Shipments, U.S. Department of Transportation.

West coast petroleum consumption

[In millions of barrels per day]

1978	2.631
1979	2.638
1980	2.575
1981	2.376
1982	2.140
1983	[1] 2.050

[1] Data covers January to July.

Source: U.S. Department of Energy.

Net California oil production

[In millions of barrels per day]

1978	.951
1979	.965
1980	.977
1981	1.055
1982	1.091
1983	[1] 1.115

[1] Data covers to January to July.

Source: U.S. Department of Energy, Oil and Gas Journal.

Over the next 10 years it is likely that the west coast oil surplus will decline rather than increase in size. Three factors influencing this development are: West coast petroleum consumption; Alaska oil production; and, California oil production.

West coast petroleum consumption.—Is expected to rise gradually over the 1983-90 period as industrial activity expands, the economy adjusts to lower real fuel costs and investments in increased fuel efficiency are reduced. Accordingly, we anticipate that West Coast petroleum consumption will rise by several hundred thousands barrels per day (200,000 B/D) over the depressed 1983 figure by 1990. That is, we expect a moderate reversal in the decline in petroleum consumption that has been underway since 1979. Certainly the precipitous decline since 1979 will not continue.

Alaska oil production.—Forecasts of prospective Alaska oil output are dependent on assumptions regarding: the rate of decline in Prudhoe Bay production; success (or the lack of success) of exploration activities in the offshore Beaufort Sea; the rate at which smaller fields on the North Slope (already discovered) are developed; and, the rate at which production from Cook Inlet and the Kuparuk fields decline.

The most important factor influencing forecast of Alaska oil output is the rate at which production in the Prudhoe Bay field is expected to decline. During the 1977-83 period the giant Prudhoe Bay field produced nearly 5 billion barrels of oil, or approximately half of the initial proved recoverable reserves (10 billion barrels) in the field. Over the 1984-90 period as the reservoir is depleted and oil pressure drops the output from Prudhoe Bay will decline. To some degree the rate of decline can (and will) be reduced by water injection projects and drilling additional wells in closer spacings. However, even with allowances for these enhanced recovery investments Prudhoe Bay production is forecast to decline from 1.5 to 0.9 million B/D over the 1986-90 period.

Considerable optimism is tied to the exploratory activities in the Beaufort Sea where major oil companies paid nearly $2 billion in lease bonuses in last autumn's Federal sale. Exploratory drilling in the Outer Continental Shelf [OCS] Beaufort will begin in November 1983 and initial exploratory results are expected by mid-1984. If North Slope production is to remain at the 1.5 million B/D level throughout the 1990's it will be necessary for major oil discoveries (3 to 5 billion barrels of reserves) to be made in the Alaska Beaufort. However, there is no way of determining what will be found in the Beaufort Sea until the exploratory drilling process is completed.

If the Alaska Beaufort finds are similiar to those in the adjacent Canadian Beaufort it will require many years to develop relatively small oil fields that will produce several hundred thosands of barrels per day by the mid-1990's. The range of possibilities also includes: natural gas finds; no oil; and, a major oil find. Estimates about potential Beaufort production rely on highly speculative assessments.

The development of smaller fields on the North Slope (Endicott, Kuparuk, Milne Point) will only tend to reduce the rate at which total Alaskan oil output declines after 1986. However, only if substantial oil finds are made in the Beaufort Sea is it likely that total Alaska oil production will be maintained at current levels until the late 1990's.

California production.—Reports of large oil discoveries in the California OCS have led some observers to conclude that California production will also contribute to the west coast oil surplus. The Coalition tends to take a less extreme view.

Over the 1983-90 period we anticipate that onshore California production will decline as output from older fields (i.e. Elk Hills, Wilmington, Huntington, etc.) falls off and output from thermal recovery projects peak by 1986. After 1986 we expect that California OCS production will increase at a rate that essentially offsets the decline in onshore California production. Therefore, we anticipate that California production will remain relatively flat for the foreseeable future.

Summary.—It is the coalition's view that moderately rising or flat west coast oil consumption combined with relatively flat California crude production and declining Alaska oil production after 1986 will result in declining West to East movements of Alaska oil. However, in the event that major oil fields are discovered in the Alaska Beaufort Sea it is likely that the current level of West to East movements of Alaska oil (approximately 800,000B/D) will be maintained.

2. Alaska oil is the highest cost oil in the world and therefore requires improved netbacks (higher wellhead prices) that would result from lower transportation costs.

From a factual standpoint North Sea oil (Norway, Great Britain), not North Slope oil is the most expensive in the world. However, to provide a more meaningful comparison of oil costs one must take into account the tax structure, volumes of production and project profitability. Because of the high volume of Alaska oil production the amortized costs of the capital investment are relatively low when measured on a unit of production basis. Furthermore, when the North Slope investment is measured on a net payback basis (the number of years required to recover the capital investment) initial oil company expenditures on lease bonuses, field development, pipeline and tankers (oil company owned) were recovered by the end of 1981. This means that the rate of profit currently being earned on North Slope operations is extremely high since the remaining net investment carried on oil company books is quite small.

The level of profit earned on North Slope oil should also be considered in relation to its "high costs". North Slope producers earn net after tax profits of $9 per barrel on their integrated Alaska oil operations. This includes: $5.50/B in production; $2.50/B in Trans-Alaska Pipeline System operations; and $1/B in transportation (tankers), refining and marketing. On a flow of 1.5 million B/D (or 548 million barrels) this works out to a yearly profit of $4.9 billion. This figure should be contrasted with total Alaska North Slope infrastructure development costs (leases, field development, pipeline and tankers) of nearly $15 billion. Alaska North Slope oil is both a high cost and high profit operation.

Arguments that permitting exports would significantly improve wellhead prices, profits and incentives to produce more oil are questionable. Small volume exports (200,000 to 300,000 B/D) will have a minimal impact on wellhead prices (less than a $1 per barrel). Furthermore, the regressive nature of the state and federal tax structure (above the Windfall Profits Tax base of $16.40/B) ensures that most of the transportation savings (90 percent) will be paid in taxes.

3. The amount of subsidy received by the U.S. tankers engaged in the Alaska oil trade amounts to $3.3 billion.

Several misconceptions should be cleared up before we discuss the logic and arithmetic of the "subsidy" argument. First, tanker transportation costs are not added on to the prices consumers pay for petroleum products. Rather, petroleum prices are determined by what consumers are willing to pay in the market place. Changes in tanker transportation costs reflect distribution of economic rent among producers, governments and shipping companies. Second, domestic tankers do not receive subsidy. Rather what PHB is talking about is the extent to which the cost of transporting oil on U.S. ships is more expensive than transporting oil on foreign ships, cost which is not carried to the consumer.

The analysis of the amount of "subsidy" as put forth by the Putnam, Hayes and Bartiett study entitled "The Export of Alaska Crude Oil, An Analysis of the Economic and National Security Benefits" (PHB) involves multiplying 500,000 B/D of Alaska oil moving eastward by an assumed $5.25/B transportation charge. The daily transportation charge ($2.6 million) is annualized to $1 billion, extended over the 1983-90 period and discounted to a net present value of $3.3 billion. The relevance of 500,000 B/D is PHB's estimate of Alaska oil flows to the Far East that would result if exports were approved.

As noted above domestic tankers do not receive subsidies. Rather what PHB is talking about is the extent to which domestic tanker costs exceed foreign tanker costs. However, PHB overstates the extent of the cost difference. There are several problems with PHB's approach that involve arithmetic and economic logic. The cost of moving Alaska oil to the Gulf Coast (using the latest charter rates) is $4.00/B not $5.25/B. Furthermore, a $1/B Northville pipeline tariff is included in the costs which lowers the tanker related costs to $3.00/B in transporting Alaska oil eastward. Therefore, the tanker cost figure at issue is $3.00 not $5.25/B. Of that $3.00 certainly operating costs such as fuel costs have no relevance to their arguments. Fuel costs account for 35 percent of tanker charges (35×$3.00/B=$1.05/B) and would lower the tanker costs in question to $1.95/B.

Actually, a more fundamental problem exists than simple arithmetic. Because PHB conveniently overlooks the fact that we will have to replace every drop of exported oil with imports, PHB misunderstands the fundamental economics involved. Middle Eastern oil imports will actually result in more sea miles being traversed to move the total flow of oil; that is, the current flow of oil East from Valdez to the Gulf Coast and East from Saudi Arabia to Japan is shorter than the alternative West to East flow that would result from exports (west from the Middle East to the gulf coast, west from Valdez to Japan). What PHB calls a subsidy is not in fact a real resource savings. It is a substitution of foreign factors of production for American factors of production.

4. Exports of Alaska oil will facilitate additional exports of U.S. coal and natural gas (LNG) to Japan and other countries in the Far East.

This contention is difficult to reconcile with the facts of the situation. First, with natural gas exports we are talking about potential foreign markets for Alaska natural gas reserves that are part of the Prudhoe Bay field. The high cost of transporting Prudhoe Bay gas by a newly constructed thousand mile pipeline from the North Slope to Valdez raises serious questions about the economic competitiveness of the Alaskan gas (sold as liquified natural gas) in Far East markets.

Second, the Japanese have negotiated many LNG contracts and have adequate gas supplies available until the late 1990's.

Third, in the matter of coal exports the U.S. has been a major supplier to Japan for many years. However, because of the high costs of U.S. coal the Japanese have diversified supplies and reduced purchases of American coal. Increased Japanese purchases of American coal will be facilitated by lower coal prices, not by exports of Alaskan oil.

5. The U.S. presently exports nearly 800,000 barrels per day of petroleum products, but prohibits the exports of Alaska oil. This policy is inconsistent since there is no difference between crude oil and refined products exports.

The volume of oil exported is subject to question. In 1982 total U.S. exports amounted to 815,000 B/D. However, Alaska oil shipments to the Virgin Islands and Puerto Rico are classified as exports, although this crude oil in the form of refined products is ultimately shipped to U.S. markets. Approximately 240,000 B/D of Alaska oil shipped to the Virgin Islands and Puerto Rico should in a technical sense be eliminated from the export figures, resulting in a net export figure of 575,000 B/D of refined products. The product export figures in 1982 is nearly double the product export figure that existed when export controls were enforced.

Several qualifications should be made about these product exports. First, they include:

	[Barrels per day]
Petroleum coke	220,000
Residual oil	169,000
Liquified petroleum gases	127,000
Distillates	59,000
Total	575,000

Petroleum coke has been exported abroad for many years and is used in the manufacture of aluminum and synthetic rubber. It is a byproduct of processing high sulfur low gravity crudes primarily located on the West and Gulf Coast.

Residual oil exports have increased in recent years as industrial and electric utility requirements declined. To a large extent this shift reflects increased availability of natural gas.

Exports of liquified petroleum gases are part of the petrochemical trade, while distillate exports are minimal.

Second, a policy of exporting, refined products differs appreciably from exporting crude oil. Products are exported because they are temporarily surplus to local requirements that fluctuate with market conditions. In the event of increased domestic requirements these products can be redirected to local markets with minimal difficulty. However, crude exports present a different situation. Alaska oil exports would entail the permanent loss of U.S. tanker capacity. This development would make it impossible to direct Alaska oil to eastern markets in the event of an international oil supply disruption.

6. Tankers engaged in the Alaska oil trade are largely smaller, older vessels that must be replaced with new ships.

This statement is incorrect. The average age (per deadweight ton) of tankers engaged in the Alaska trade is 10.5 years. Tankers employed on the West Coast tend to be several years below the average while tankers engaged in the Panama/Eastward trade are a few years older than the average.

It should also be noted that the age of a tanker is not a single criteria by which it is possible to measure efficiency. Extensive vessel upgrading and retrofitting have modernized many tankers to the point that the date of initial construction is a meaningless figure.

7. Is Mexican or Venezuelan oil a suitable replacement for Alaska oil exported to Japan? We believe that if Alaskan oil is exported in significant volumes Mexican and Venezuelan oil are not likely candidates for replacing Alaska oil on the Gulf and East Coast. Rather, we believe Saudi or Persian Gulf oil will replace Alaska oil in eastern markets. First, Mexican and Venezuelan oil sales to the United States are high in relative terms. Furthermore, exported countries maintain policies that limit overdependence on any one market such as the United States. The United States presently accounts for over half of Mexico's oil export sales. Second, most Mexican and Venezuelan crudes are not compatible with Alaskan oil. That is, they are of lower quality and U.S. refining capacity to handle these crudes is limited. It should be noted that on a monthly basis the United States is importing and refining large volumes of these lower quality foreign oils. Third, displacement of Mexican oil from Japanese markets would be quite small and the predominant crude backed out of Japan would be Saudi oil. Under current OPEC production quotas (established to uphold world oil prices) exporting countries have agreed to limit output in a fashion that precludes one country gaining market share at at the expense of another. Mexico and other non-OPEC countries have adhered closely with this agreement. To preserve current export volumes Saudi oil displaced from Japanese markets would

have to be sold in U.S. markets. Fourth, Alaskan producers also have interests in Saudi Arabia (Exxon directly, SOHIO/BP indirectly) that would facilitate such sales. Furthermore, Saudi oil is similar to Alaska crude (presenting no refining problems) and it was Alaska oil that displaced Saudi oil from eastern markets in recent years.

Coalition to Keep Alaska Oil
Detailed Response to the Report Entitled "The Export of Alaska Crude Oil, An Analysis of the Economic and National Security Benefits"
by Putnam, Hayes & Bartlett, Inc.,
Dated May, 1983

Introduction

The report entitled "The Export of Alaska Crude Oil, An Analysis of the Economic and National Security Benefits" by Putnam, Hayes & Bartlett, Inc. (PHB), dated May, 1983, advocates that Alaska oil exports will: benefit U.S consumers and the state of Alaska; enhance international energy security; improve national security; foster free trade; and, exert little if any damage to the U.S. tanker fleet. The Coalition to Keep Alaska Oil disagrees strongly with the conclusions presented in the PHB study. It is our view that the PHB study contains factual errors, employs a questionable methodology and fails to identify major economic, financial, foreign trade and defense issues concerning Alaska oil exports.

Our response is structured along the lines of the major topics raised in the PHB report. These topics are:

1. The amount of oil to be exported.
2. Consumer benefits associated wth exports.
3. Tax revenue arguments for exports.
4. Oil production and wellhead profits (incentives) associated with exports.
5. National security.
6. Foreign trade.
7. The impact of exports on the U.S. tanker fleet.
8. Costs associated with the retention of the export ban.
9. Refined petroleum product exports.
10. The limited export proposal.

1. The amount of oil to be exported.

PHB maintains that a complete lifting of the export ban will result in a maximum of 500,000 barrels per day (B/D) being exported. [The remainder of the oil would go to the West Coast-610,000 B/D-and the East Coast-480,000 B/D.]

The Coalition contends that if the export ban were removed Alaska oil flows to the Far East (particularly after 1985) would be much greater than PHB estimates.

First, PHB's estimate of 610,000 B/D of Alaska oil refined on the West Coast by 1985 is difficult to reconcile with the current level of Alaska oil consumption (800,000 B/D) on the West Coast. If (as PHB maintains) the West Coast is a preferred market (because of higher profitability) then why would refining runs of Alaska oil decline from 800,000 B/D to 610,000 B/D over the 1983-85 period?

Second, after 1985 as the major North Slope producers worked their way out of contractual commitments for independent tankers and the Northville pipeline there would be little incentive to continue any oil shipments to eastern markets. Therefore, it is highly likely that Alaska oil exports will be in excess of 500,000 B/D after 1985.

Third, even the Administration's Department of Energy (DOE) analysis of Alaska oil scenarios indicated exports would exceed 900,000 B/D if the ban were lifted.

It is the Coalition's contention that (after 1985) Alaska oil exports would exceed 800,000 B/D. This implies that all Alaska oil deliveries into the Gulf Coast would be diverted to more profitable markets in the Far East.

2. Consumer benefits associated with exports.

PHB maintains that in the short-term consumers will neither benefit nor lose from exports. However, over the long-term, consumers will benefit from increased production and higher oil industry tax payments.

The Coalition takes strong exception to this observation. The Coalition estimates that if Alaska oil were exported at the rate of 800,000 B/D, domestic petroleum product prices will rise by up to $2 billion per year.

First, the factual record doesn't support PHB's contention that the delivered price of Saudi Light crude oil sets the price of domestic oil. Since decontrol in early 1981 delivered Alaska oil prices have been priced $4 per barrel below comparable grades of foreign oil. If prices for delivered Saudi Light crude were used in our comparison, the difference between these oil prices would be even greater.

Second, the ability of Saudi Arabia to set oil prices existed when tight supply conditions prevailed in world markets. This condition hasn't existed for several years and it is unlikely that tight market conditions will arise in the forseeable future. Therefore, we view PHB's oil pricing theories as being out of date and inconsistent with the facts.

Third, by removing Alaska crude shipments to the Gulf Coast oil exports to Japan will raise petroleum prices paid by consumers on the West Coast by eliminating the so-called West Coast discount. Empirical evidence shows that a $2 per barrel differential clearly exists between West Coast and Gulf Coast petroleum prices. The differential is caused by a combination of factors including market conditions on the West Coast, transportation costs between the West Coast and the Gulf Coast and producer marketing strategies. The additional transportation cost that producers incur in moving Alaska oil from California to Texas results in the "discounting practice." To maximize profits (achieved by avoiding some portion of the additional transportation costs) Alaska producers negotiate with refiners to process additional volumes of Alaska oil on the West Coast. In the transaction process, the Alaska producers and West Coast refiners agree to share the difference in avoided transportation costs between the West Coast and Gulf Coasts, which amounts to between $1 and $2/B. The sharing of the avoided transportation costs accounts for the difference between Alaska oil prices on the West and Gulf Coasts. If Alaska crude is no longer shipped to the U.S. Gulf, West Coast refiners could no longer demand discounts and prices would rise accordingly.

A second contributing factor to the discount, which PHB chose to ignore, is oil market conditions on the West Coast. The so-called "oil surplus" on the West Coast, that is the 800,000 to 900,000 barrels a day of crude which is surplus to West Coast petroleum consumption and is shipped to Gulf and East Coast markets, also has exerted downward pressure on West Coast petroleum prices. Removal of this large surplus, which has for many years contributed to keeping West Coast prices lower on the West Coast than in the rest of the country, will cause West Coast prices to rise by tightening West Coast oil markets.

The Coalition also believes that American consumers stand to lose because they will be paying more for higher priced foreign oil to replace lower priced Alaskan oil. During 1982 and 1983 Alaska North Slope crude oil prices ranged from $2 to $6 less than imported crude. Our estimates show that Americans could pay up to $1 billion more for imported foreign oil.

Finally, American consumers in both the short and long-term derive substantial economic and political benefits from abundant domestic oil which has relieved U.S. dependency on imported oil. Alaska oil now constitutes nearly 20 percent of U.S. oil production and has stemmed the decline in U.S. oil production. Without Alaska oil production, total U.S. crude oil production would have fallen dramatically from 9.2 million barrels in 1973 to 6.97 barrels in 1982 or by 24 percent. The increase in production of Alaska crude has meant that overall U.S. production has fallen to only 8.67 million barrels per day or by only 6 percent. If 800,000 barrels a day were exported, U.S. imports would increase by 24 percent.

3. Tax revenue arguments for exports.

These analyses are dependent on the assumption that the transportation savings incurred in shipping Alaska oil to Japan versus the Gulf Coast will be reflected in higher wellhead values that in turn generate additional tax revenues to the federal government and the state of Alaska. Unfortunately, advocates of exports (such as PHB) fail to identify the key assumptions and important elements excluded from their analysis. These factors, when properly identified, raise serious questions about the federal revenues that are expected to result from the export of Alaska oil.

In the Coalition analyses, we assume for purposes of comparison (as does PHB) that 500,000 B/D will be exported to the Far East and that transportation costs will be lowered accordingly:

OIL SHIPMENTS TO:

Valdez/Gulf Coast		Valdez/Japan (foreign tankers)
Valdez to Panama	$2.00	
Northville Tariff	1.00	
Panama to the Gulf Coast	0.75	
TOTAL	$3.75	$0.85

The $2.90/B (3.75 - 0.85) savings impact on first year wellhead revenues would be $530 million ($2.90 x 183 million) or $0.97/B on the total Prudhoe Bay output of 548 million barrels. Distribution of the economic rents would approximate the following pattern: federal government, 60 percent; state government, 27 percent; and, producers 18 percent. These figures are reflected in the table below.

PHB assumes that greater transportation savings ($3.65/B or $664 million) would raise average Prudhoe Bay wellhead prices by $1.21/B. The PHB figures are also presented below:

FORECAST ANNUAL INCREASE IN TAX REVENUE ESTIMATES (In millions)

	PHB	
	1984	1990
Federal	$416	$478
State of Alaska	182	209
TOTAL	$598	$687

	COALITION	
	1984	1990
Federal Revenues:	$318	$0 -- $318
Offsets to Federal Revenues		
o Title XI Defaults	(200)	0 -- 0
o Net federal tax losses in maritime sector	(240)	(240)--(240)
Net Federal Revenues	(122)	(240)-- 78
State of Alaska	143	143 -- 143
TOTAL	21	(97) 221

In the first full year of exports PHB estimates that federal revenues would rise by $416 million. However, the PHB analysis fails to account for federal revenue offsets that would accompany the export of Alaska oil. These offsets at a minimum include defaults on government insured Title XI Loans to tankers operating in the Alaska trade and lost federal income tax revenues from the maritime sector. These offsets are conservatively estimated to be (for 1984) $200 million in Title XI loan defaults and $240 million in lost federal tax revenues. Exports (at 500,000 B/D) would trigger total Title XI defaults of $600 million that would be amortized over 3 years ($200 million per year for 1984, 1985 and 1986). The loss in tax revenues from the maritime sector would be a recurring event on an annual basis.

The Coalition analysis shows that Alaska oil exports would reduce federal revenues by $182 million in 1984, versus PHB's analysis that federal revenues would rise by $416 million in 1984. However, it should be noted that the PHB analysis fails to account for Title XI loan defaults and lost federal income tax revenues in the maritime sector.

PHB's long-term scenario also presents problems. For incremental Windfall Profit Tax (WPT) revenues of $478 to be realized in 1990 as PHB estimates, several critical assumptions have to made regarding oil price increases during the 1983-90 period and the level of domestic inflation.

WPT contributions are dependent on the rate at which the tax base escalates (presently $16.40/B) and the prevailing wellhead price for Alaska oil. The WPT base is increased quarterly to reflect the rate of domestic inflation.

Currently, the WPT base is close to the actual wellhead price and little windfall tax is paid on Alaska oil. Exports of Alaska oil are expected to raise average Prudhoe Bay prices by $0.97/B to $1.21/B. However, an annual inflation rate adjustment of just 6 percent would wipe out the increased wellhead prices resulting from exports within one year. For PHB's estimates to be realized one must assume that oil prices will escalate at a rate that is at least equal to the general rate of inflation over the 1983-90 period. The trend in oil prices since 1981 casts doubt on such an assumption.

Therefore, the potential outcome of annual federal revenues (with exports) by 1990 ranges from a loss of $240 million to a gain of $478 million. PHB's estimate for 1990 federal revenues assumes that there are no federal revenue losses associated with exports and that world oil prices will escalate at a rate that at least covers the level of inflation.

The Coalition's analysis, however, shows that by 1990 the federal government's annual revenues could range from a negative $240 million to a positive $78 million per year.

PHB correctly estimates that the State of Alaska would be a major beneficiary of improved tax revenue if exports were approved. Alaska derives nearly all of its tax revenues from oil production on the North Slope.

4. Future oil production and wellhead profits (incentives) associated with exports.

PHB maintains that with exports the profitability of tier one oil (North Slope production) subject to the WPT will improve by $0.47 per barrel and profits on production not subject to the WPT will rise by $1.57/B. The improved profit levels are expected to result in unquantified increases in oil output from Alaska in future years.

Coalition analysis of the integrated profit levels associated with Alaska oil suggest that exports will offer little incentive to producers.

First, it should be noted that the overall profits associated with North Slope oil are approximately $9 to $10 per barrel. This includes: production profits of $5 to $6 per barrel; Trans-Alaska Pipeline System (TAPS) profits of $2.50 per barrel; and tanker profits that range from $0.50 to $1.66 per barrel. In aggregate, annual net profits from North Slope oil operations are approximately $5 billion per year. This contrasts with a total capital investment (tanker, pipeline, production) of approximately $20 billion. Clearly the incentives to producers under the existing system are quite attractive. Since the initial investments in pipelines, tankers, leases etc., have been paid off, the rate of return earned on the North Slope is extraordinarily high.

Second, when the integrated profit structure is considered there is little producer incentive to consider exports. This phenomenon occurs with both oil subject to and not subject to the WPT. Since producers will not earn profits on foreign tankers, what is gained (through exports) in wellhead improvements is lost in foregone U.S. tanker profits. From a total system perspective exports do not improve overall corporate profitability. Therefore, it is unlikely that exports will improve profits or incentives to develop Alaska oil. Using PHB's numbers we illustrate the relative insensitivity of Alaska oil profits to export approval.

ESTIMATED PROFIT CHANGES WITH EXPORT ASSUMING OIL SUBJECT TO THE WPT AND A REFINING ACQUISITION PRICE OF $29/B ($/B)

	U.S. West Coast		U.S. Gulf Coast		Japan	
	PHB	Coalition	PHB	Coalition	PHB	Coalition
Production	$6.11	$6.11	$5.64	$5.64	$6.11	$6.11
Tankers	--	0.50	--	1.66	--	--
TOTAL	$6.11	6.61	5.64	7.30	6.11	6.11

ESTIMATED PROFIT CHANGES WITH EXPORTS ASSUMING NO WPT AND A REFINERY ACQUISITION PRICE OF $28/B ($/B)

	U.S. West Coast		U.S. Gulf Coast		Japan	
	PHB	Coalition	PHB	Coalition	PHB	Coalition
Production	$8.03	$8.03	$6.48	$6.48	$8.05	$8.05
Tankers	--	0.50	--	1.66	--	--
TOTAL	$8.03	$8.53	$6.48	$8.14	$8.05	$8.05

5. National Security.

In a cursory fashion PHB examines the security issues associated with Alaska oil exports.

The Coalition believes that the security issues associated with exporting Alaska oil are more complex than those addressed by PHB.

First, exports of Alaska oil will only complicate and worsen national energy security: oil imports will increase; the capacity to move oil within the United States will be destroyed; the United States will become enmeshed in extremely complex bilateral oil trade relations which could well reduce the supply of oil available during critical periods; and support for policies and programs to enhance national energy flexibility and insulate the United States from the potential shocks of the world oil system would be undermined.

Second, proponents of exports have underestimated the past and potential future impact of energy problems on the U.S. economy, overestimated the positive contribution that exports would make to the world energy system, and simply neglected or downplayed the potential energy costs that exports would impose.

The record of the two major oil supply disruptions of the 1970's-- both of which were very small in terms of quantities of oil lost, but very large in terms of the price increases they caused--shows the extreme difficulty that the market has had in adjusting. Price increases in oil send tremors through all sectors of the economy because the ability to find substitutes for oil is low and the adjustment of prices for all other goods and services is not rapid. In the real world the rising price of oil is not simply an "efficient allocator of resources."

Moreover, the world energy market has proven to be completely unpredictable and unstable, susceptible to wild swings in price and supply that have much more to do with politics than economics. Reality has taught us that those swings, in the first instance, are the cause of disequilibria and huge adjustment costs. Those costs are registered as lost output (GNP), increased inflation and increased unemployment.

Third, PHB's notion that U.S. energy security is somehow enhanced if we can ensure adequate supplies to our allies, namely Japan, ignores the role that the United States itself plays in easing energy supply problems through its own efforts at energy independence. Only a few short years ago, significant political tensions were created within the western community over U.S. oil imports. During the summer of 1978, for example, the United States received wide criticism from its allies who, alarmed by the effects of U.S. oil demand on the monetary system and on oil prices, demanded that the U.S. restrain its oil imports. United States improvements in its own energy security, through reductions in oil imports will do more to ease political and economic tensions in the event of supply disruptions than sending Japan some of its oil supply.

Fourth, exports of Alaska oil would also reduce the flexibility in transporting Alaska oil to U.S. markets. The existing tanker/pipeline system is capable of directing varying volumes of Alaska oil to markets on the West, Gulf and East Coasts. In the event of a crude oil supply disruption this flexibility would be invaluable in balancing the crude oil supplies throughout the country.

Fifth, exports of Alaska oil will eliminate business opportunities and lead to the scrapping of smaller tankers (those under 80,000 DWT) that can serve defense purposes during a national emergency. A recent Department of Defense study concludes that the existing U.S. tanker fleet is barely capable of "transporting military petroleum requirements under emergency conditions."

In the event of exports many U.S. tankers would face layup and ultimately would be scrapped. To forestall this eventuality DOD would have to purchase these vessels and place them in the reserve fleet. However, vessels placed in the reserve fleet require various lengths of time to be activated and would require crews that would be difficult to find. Because of these factors, operating tankers are indeed preferable to those in a reserve fleet.

Alaska oil exports and the loss of U.S. tankers are factors that are relevant to the Strategic Petroleum Reserve (SPR). With exports, U.S. dependence on imported oil will increase. Therefore, the size of the reserve should be expanded to reflect the increased dependence on foreign oil. Furthermore, in the event that the SPR must supply oil into the domestic system it will be necessary to move some of the reserve oil to refineries not served by pipelines. This will require the use of U.S. tankers.

In summary the Coalition believes that the security issues associated with exports are too complex to be rationalized by vague references to the free market system.

6. Foreign Trade.

PHB claims that Alaska oil exports will lead to additional exports of U.S. coal and gas to Japan.

First, an examination of recent U.S./Japanese coal contracts indicates that Japan intends to purchase less, not more, U.S. coal. According to sources at Coal Week International "The anticipated boom in coal sales to Japan has not materialized. In fact, Japanese purchasers are backing away from earlier commitments to purchase both steam and metallurgical coal." Projections show that Japanese purchases of metallurgical coal which totalled 22 million metric tons in 1982 will fall 60 percent to 13 million metric tons by the end of 1983. Furthermore, Japanese sources such as Mark Tada of Nippon Steel have been quoted in recent months as saying that Japan's Ministry of International Trade & Industry is revising downward its forecast for future coal consumption and that Japan will only be buying 500,000 metric tons of coal from the western U.S. states in 1983, a large decline from the 2 million metric tons purchased in 1981."

Second, with regard to U.S. gas sales to Japan, Japanese officials have also been expressing little enthusiasm for buying U.S. natural gas. To illustrate the point, Petroleum Intelligence Weekly indicated that the Japanese will be "swimming in an excess of 15 million tons a year of liquified natural gas by 1990." If they stick to present liquified natural gas projects that they are committed to in Indonesia, Malaysia, Australia and Canada, current conditions show little prospect for economically profitable U.S. gas sales to Japan during this decade.

Third, it is curious that PHB's analysis makes no reference to the problems confronting U.S./Japanese trade. On June 30, in Tokyo, the Minister of International Trade and Industries, Sosuke Uno, announced that the Japanese will not extend their voluntary restraints on auto exports to the United States for an additional year. U.S. officials had been pushing for an additional year of Japanese export quotas which are set to expire on March 31, 1984. Little headway has also been made in getting Japan to lower import quotas on U.S. agricultural products. In fact, nothing was accomplished in an early July U.S.-Japan trade conference where the U.S. failed to gain concessions from the Japanese. So unsuccessful has the U.S. been in opening Japanese markets to U.S. agricultural products that on July 1, it filed a formal complaint with GATT over Japanese quotas on farm products.

In light of these trade developments the Coalition doubts that increased exports of new materials will facilitate improved trade relationships with Japan. Non-manufactured goods presently account for most U.S. exports to Japan. However, Japan primarily exports manufactured goods (i.e., cars, consumer electronics) to the United States. U.S. unemployment has largely been in the basic industries that are most negatively impacted by Japanese imports. Furthermore, Japanese exports are stimulated by a subsidized yen-to-dollar relationship that keeps Japanese goods priced below U.S. goods in the U.S. markets. However, many U.S. manufactured goods are denied access to Japanese markets by restrictions, quotas and complex inspection and licensing requirements. Therefore, we find few benefits associated with exporting scarce raw materials to Japan that will have little impact on the U.S. unemployment rate. U.S. trade talks with Japan should be directed towards improved access for U.S. manufactured goods to Japanese markets and more equitable pricing of Japanese goods in U.S. markets.

7. The impact of exports on the U.S. tanker fleet.

PHB concludes that Alaska oil exports can rise from 185,000 to 530,000 B/D over the 1984-90 period without harming the U.S. tanker fleet. The natural attrition of the fleet through normal scrappings will make it possible to facilitate exports with no adverse impact on the existing maritime industry. In closing PHB claims that even with exports the Alaska trade will employ some 6.2 million DWT of U.S. tanker capacity.

PHB's analysis of the impact of Alaska oil exports contains many errors. First, the present employment of U.S. tankers in the Alaska trade (without exports) is approximately 6.9 million DWT. This constitutes about two-thirds of the Jones Act fleet. PHB suggests that if 500,000 barrel per day of oil is exported, the U.S. tanker fleet would only decline to 6.2 million DWT by 1985. PHB's estimate of U.S. tanker employment in the Alaska trade with exports is entirely wrong. An export regime of 500,000 barrels a day would cause the U.S. tanker fleet to decline by approximately 3.3 million deadweight tons (not .5 million dwt) to about 3.6 million dwt, a loss of 30 percent of the fleet.

Second, the notion that a large portion of the tanker fleet employed in the Alaska trade is old and ready for the scrap heap couldn't be farther from the truth. Tankers employed in the Alaska oil trade are modern, efficient vessels with useful operating lives that extend beyond 1995. Furthermore, there are only a few of the older, less efficient vessels remaining in the trade and their demise is being accelerated by the Port and Tanker Safety Act and the decline in traditional U.S. coastal trades. Contrary to PHB's assertion that the natural attrition rate of the fleet throughout the 1980's will cause an increased demand for tankers by the end of the decade, our estimates show that the attrition process will largely be completed within a year. Furthermore, PHB's tanker demand and supply analysis was based on the assumption that the large tankers have a useful life of only 15 years. This is an incorrect assumption since most of the large tankers have mortgages of 25 years.

B. The costs associated with the retention of the export ban.

PHB maintains that a continued export ban will produce distortions in the economy. It is argued that the West Coast oil surplus will expand and that an additional 3.8 million DWT of tanker capacity will have to be built. PHB also states that with the export ban retained oil companies will have no incentive to keep tanker costs down. In closing, it is argued that retaining the export ban constitutes a subsidy to the maritime sector worth $1 billion per year.

We object strongly to these assertions. First, assuming that there is some growth in the West Coast oil surplus over the 1983-90 period, adequate supplies of efficient surplus of under-utilized U.S. tankers exist to handle increased oil flows. Therefore, no additional tonnnage has to be built.

Second, the belief that oil companies have no incentive to minimize tanker costs is incorrect. Evidence of cost-competitiveness is found in the decline in Panama/eastward tanker rates since late 1982. Over the past six months tanker rates on the eastward leg of the Alaska trade have declined by 40 to 50 percent. Declining rates have been triggered by overtonnaging which in turn was caused by the completion of the Northville pipeline across Panama and reductions in the Gulf/East Coast petroleum products trade. It should be noted that Alaska producers backed the Northville pipeline in an effort to reduce tanker costs.

Third, the contention that retaining the export ban amounts to a $1 billion a year subsidy to the U.S. tanker industry is absurd. It should be noted that domestic tankers do not receive subsidies. Rather what PHB is talking about is the extent which domestic tanker costs exceed foreign tanker costs. PHB's method of quantifying the subsidy is to estimate the annual cost of moving 500,000 B/D to eastern markets at a cost of $5.25/B. This calculation results in an estimated subsidy of $1 billion per year.

There are several problems with PHB's approach that involve arithmetic and economic logic. To begin, PHB overstates the extent of the cost difference. The cost of moving Alaska oil to the Gulf Coast (using the latest charter rates) is $4.00/B not $5.25/B. Furthermore, a $1/B Northville pipeline tariff is included in the costs which lowers the tanker related costs to $3.00/B in transporting Alaska oil eastward. Therefore, the tanker cost figure at issue is $3.00/B not $5.25/B. Of that $3.00, certainly operating costs such as fuel costs have no relevance to their arguments. Fuel costs account for 35 percent of tanker charges (35 x $3.00/B = $1.15/B) and bring tanker costs in question to $1.95/B.

Actually, a more fundamental problem exists than simple arithmetic. Because PHB conveniently overlooks the fact that we will have to replace every drop of exported oil with imports, PHB misunderstands the fundamental economics involved. Middle Eastern oil imports will actually result in more sea miles being traversed to move the total flow of oil; that is, the current flow of oil East from Valdez to the Gulf Coast and East from Saudi Arabia to Japan is shorter than the alternative West to East flow that would result from exports (West from the Middle East to the Gulf Coast, West from Valdez to Japan). What PHB calls a subsidy is not in fact a real resource savings. It is a substitution of foreign factors of production for American factors of production.

9. Exports of Refined Petroleum Products

PHB maintains that continuing the ban on exports of crude oil to our allies while at the same time permitting exports of refined products to any nation is illogical, both from a national security and an energy policy perspective.

What the United States, in fact, exports is primarily residual fuel (36% of product exports), natural gas plant liquids (36%), distillates (13%) and liquefied petroleum gas (11%). The amount of high quality fuel exported, such as motor gasoline and aviation fuel, is negligible (3%). Residual fuel oil is a heavy oil which remains after processing and is in low demand in the United States. Natural gas liquids are generally blended with crude oil for refining and LPG is used as a petrochemical feedstock. These may be "useful" petroleum products as the study states, however, their export is far different from large exports of crude oil and valuable light refined products such as motor gasoline and aviation fuel.

10. A limited export proposal.

As an afterthought, PHB introduces limited exports as a possible compromise. Aside from the objections expressed in the preceeding text, we have several negative observations relative to limited exports of Alaska oil. They are:

First, restricted exports will require the establishment of a federally regulated allocation system which will ensure that all producers have an equal opportunity to export Alaska oil. Such a regulatory system will be needed since exported oil will be more profitable to some producers than oil sold on the Gulf Coast.

Second, if Alaska state royalty oil makes up most of the limited exports, the federal government will gain little if any increase in WPT revenues. This phenomenon arises because Alaska state royalty oil is not subject to federal taxations, However, the federal government would be liable for defaults on Title XI tanker loans.

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THE CONSUMER AND ENERGY IMPACTS OF OIL EXPORTS

A Report by the

Consumer Energy Council of America
Research Foundation

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I. INTRODUCTION: THE REAL ISSUES, ENERGY AND ECONOMICS

In 1973, with the Trans Alaskan Pipeline Act, and again in 1977 and 1979, with amendments to the Export Administration Act, Congress declared the clear national policy that Alaskan crude oil should not be exported except under the most stringent conditions. Alaskan oil, which was brought on line during the first decade of the energy crisis, has come to represent 16 percent of national production and even larger shares of current and projected reserves, and Congress intended that it be used to protect the consumer and national energy interests. Procedurally, Congress stipulated that a Presidential finding with Congressional concurrence were necessary before the oil could be exported. Substantively, the following conditions had to be met:

> (i) [exportation] will not diminish the total quantity or quality of petroleum refined within, stored within, or legally committed to be transported to and sold within the United States;
>
> (ii) will, within 3 months following the initiation of such exports or exchanges, result in (I) acquisition costs to the refiners which purchase the imported crude oil being lower than the acquisition costs such refiners would have to pay for the domestically produced oil in the absence of such an export or exchange, and (II) not less than 75 percent of such savings in costs being reflected in wholesale and retail prices of products refined from such imported crude oil;
>
> (iii) will be made only pursuant to contracts which may be terminated if the crude oil supplies of the United States

are interrupted, threatened, or diminished;

(iv) are clearly necessary to protect the national interest;

No Presidential finding stipulating that these conditions have been met has ever been made. However, on two occasions, the Reagan Administration has considered exporting oil without confronting the conditions set down in the Act.

In 1981, the Department of Energy, the Office of Management and Budget and the Cabinet Council on Natural Resources considered amending the Act to eliminate the conditions, with the former two strongly advocating elimination, while the latter decided against such a course of action. Amid the first budget crisis, the Administration's central concern seemed to be the generation of revenue. A series of estimates was made of how much increased federal revenue could be generated by exporting Alaskan crude (through increased wellhead prices in Alaska and perhaps California resulting in increased windfall profits tax collection). By the end of the exercise, the estimates of net revenue gains were on the order of several hundred million dollars -- at most and in the long term. Amid deficits of several hundred billion dollars, it was evident that a major national decision that affected such a large part of our energy resources would look ridiculous if made on such a flimsy basis and the project was abandoned.

At present, amid severe balance of trade problems and international trade and financial tensions brought on by a combination of high energy prices, the contraction of world trade in the second year of an energy-price-induced recession and an extremely strong dollar, the driving force behind the Administration's attack on the Act seems to be an effort to alleviate current account pressures. Exports of Alaskan crude, if they could be replaced by imports of Mexican oil (a very unlikely possibility) have taken on the aspect of a double bailout. In one stroke, it is argued by some, the Japanese balance of payments problem and the Mexican debt problem could be significantly and immediately reduced.

Thus, in both cases, the driving force behind the Administration's considerations had little to do with the conditions set down in the Act itself. The desire to repeal or neutralize the Alaskan crude oil export provisions of the Act was not based on a finding that the conditions had been met or rendered irrelevant. Rather, there were specific, ulterior goals that the Administration had in view.

In fact, as the Administration has now framed the matter, it has focused attention on two central points -- the consumer protection provisions in Section 7(d) and the strength of the guarantees in Section 7(d) that exports would not detract from national energy security. By proposing to fall back on the stipulations of other laws, it has proposed, in essence, to abolish the consumer protection test and to weaken dramatically the national energy security test contained in Section 7(d). The Consumer Energy Council of America believes that these steps would be disastrous. Neither the energy, nor the consumer, nor the economic interests of the nation would be served by exports. That is more true today than it was when the original stipulations were enacted.

Our analysis leads us to conclude that exports would not decrease consumer prices. Quite the contrary: they are likely to increase them by between $1 and $2 billion.

Our analysis leads us to conclude that exports will not improve the national energy picture in any way. Quite the contrary: they will complicate and worsen it in a number of ways. Oil imports from insecure foreign sources will increase, not decrease. The capacity to move oil from the West to the East Coast during supply/price disruptions will be destroyed. The United States will become enmeshed in extremely complex bilateral oil trade relations which could well reduce the supply of oil available during critical periods. Support for policies and programs to enhance national energy flexibility and insulate the U.S. from the potential shocks of the world oil system would be undermined.

Thus, by no stretch of the imagination can the consumer and national energy security tests of Section 7(d) of the Export Administration Act be met. The desire of the Reagan Administration and others to use Alaskan oil to solve other problems must not be allowed to override the basic consumer and energy importance of Alaskan oil or to obscure the fundamental reasonableness of the conditions which Congress has imposed on the export of Alaskan oil. Therefore, the preservation of those conditions is of vital importance.

In the past two years as the Reagan Administration and others have contemplated doing away with Section 7(d) of the Export Administration Act, there has been a host of studies -- some published, most unpublished (but very public) -- about the impact of exports. Confusion has reigned supreme as the various agencies in the Administration and interest groups outside of it have pushed estimates one way or the other to suit their purposes. The consumer and energy issues have been shunted aside by the supporters of the export of Alaskan crude, but they should still form the paramount concern in dealing with Alaskan oil. This report provides just such an analysis from a consumer perspective. It endeavors to sift through some of the confusion by pointing out several areas of agreement and disagreement between the disputants. We are convinced that once the matter is considered on its proper merits and demerits, it becomes immediately and overwhelmingly clear that the current law should be maintained and the export of Alaskan oil should remain subject to the conditions of Section 7(d) of the Export Administration Act.

II. THE CONSUMER COSTS OF EXPORTS: PRICES

A. Prices

The first and foremost observation from the consumer point of view is that not once in the entire round of official government analysis has anyone ever seriously suggested that consumer prices would decrease as a result of exports.[1] Indeed, there is almost uniform agreement that consumer prices will increase.[2]

Anyone who attempts to argue otherwise is either hypothesizing a completely unrealistic turn of events, does not appreciate the nature of the situation, or is simply trying to mislead. Indeed, the Administration is to be commended for recognizing that the consumer stipulations of the current export law, which require consumer price reductions to result from exports, cannot be met. Of course, CECA certainly does not agree that the way to respond to that situation is to simply remove the stipulations.[3] Quite the contrary. The fact that they cannot be met at present should strengthen our commitment to them.

There are two potential sources of consumer price increases. The first and most widely recognized is the loss of the so called West Coast discount.[4] Simply put, the supply/demand balance on the West Coat is favorable to consumers, placing downward pressure on prices. Estimates of the current discount range from $1.00 to $2.00 per barrel and there is general agreement that over the years the discount will stabilize closer to the higher figure than the lower one.[5] The export of Alaskan oil, by turning the supply/demand balance against the consumer, would wipe out the discount. Just about everyone agrees on that. Depending on how many barrels one thinks are discounted and how big one thinks the discount is, estimates of the cost to consumers on the West Coast would range from $.6 billion to $1.2 billion.[6]

The second potential source of consumer price increases stems from the cost of imports into the Gulf Coast. After the Alaskan oil moves down the West Coast, creating a favorable supply/demand balance in that market, it moves to the Gulf Coast and is landed at an average refiner acquisition cost that is significantly below the average refiner acqusition cost of imported oil. In the 21 months since the final decontrol of oil, the difference has been, on average, $3.30 per barrel; recent differences have been about $2.50.

If exports are allowed, Alaskan oil would be replaced by foreign imports which are more costly. This can be called the Gulf Coast "consumer price penalty" associated with exports. Although some question the existence of a "Gulf Coast penalty," arguing that any differences in landed price must be attributed to crude oil quality differences, we believe a large part of the difference reflects market conditions, not quality differences.[7]

If price differences in the range cited above were to continue, the increase in consumer prices would be between $.7

and $1.1 billion. Even after adjustment for quality differences (e.g., $.75 for the difference between Saudi light and Alaskan North Slope crude), the price increase would still be in the $.5 to $.9 billion range.[8]

Adding the two estimates of consumer price impacts, we would estimate price increases in the range of $1.1 to $2.1 billion. We believe that this is a conservative estimate for the following reason. If one believes that the Gulf Coast consumer price penalty cannot exist because the world oil price mechanism dictates against it, then one must believe that the West Coast discount is quite large and would be completely erased by removal of large quantities of oil from that market for export. In other words, the low end of the estimate is quite firm.

It is clear, however, that these estimates are imprecise. The imprecision stems from the absolutely chaotic way that world oil prices are set. Almost every one of the analyses assumes a simple netback pricing structure.[9] They assume a Persian Gulf price -- usually the official OPEC price -- add transportation costs to the Gulf Coast market and conclude that that must be the price of oil in the Gulf Coast market. Any other oil that enters the market is assumed to fetch only and exactly that price, adjusted for quality. The wellhead price of competing Alaskan oil can be ascertained by making the reverse calculation. Starting with the Gulf Coast price, one simply subtracts out the transportation costs, adjusts for quality differences and arrives at the wellhead price in Alaska.

By and large, that is the way that world oil prices are set. For the last several years, OPEC has picked a price and, in consultation with international oil companies, has tried to defend it. All other producers have then used that as a target price which they try to achieve.

However, the empirical record shows that there can be variations from the target price. These variations may reflect regional supply/demand balances, special arrangements between producers and consumers, or special arrangements between producing country governments and international oil companies. Measured at the level of refiner acquisition cost, it is clear that whatever leeway there is in the world pricing system has worked to the advantage of consumers in the U.S. As the largest free world oil producer in a soft market, we should expect no less. Of course, with imports at $32.00 per barrel (on a national average basis) and domestic oil at $30.00 per barrel,[10] both are overpriced by far, but the small difference that exists is to the advantage of consumers. The export of Alaskan oil, by reducing the quantity of domestic oil available in the U.S., would erase part of that advantage and cost consumers more than $1 billion. Thus, not only would exports fail to meet the test of section 7(d), they would certainly do the opposite.

B. Redistributive Effects

A second set of consumer effects, some of which are explicit and some of which are implicit in the recent analyses, is redistributive effects. There is absolutely no doubt that the export of Alaskan oil constitutes a major redistributive scheme. Again, it seems clear that anyone who denies these redistributive effects is either hypothesizing an unrealistic turn of events, does not understand the dynamics of the situation, or is simply endeavoring to mislead.

Consumers and shipping-related interests are clearly identified losers;[11] some argue that the federal treasury could also be a loser in the short term.[12] The State of Alaska, certain foreign interests and the oil companies are the clearly identified winners;[13] most argue that the federal treasury is a winner in the long term.[14] The magnitude of the losses and winnings is subject to dispute.

Again, the complexity of the analysis of resource flows stems from the way that world oil prices are set and the way that various interests attempt to capture the economic rents of the world oil trade. It is generally agreed that any reduction in transportation costs will result in increases in wellhead prices, not, as pointed out earlier, in decreases in consumer prices. The game then becomes one of guessing who will capture the increased wellhead revenues and who can avoid incurring costs. The situation is rendered particularly complex because revenues are divided differently depending on where the wellhead is located, where the oil is headed, in whose ships, and what offsetting losses are involved.

The calculation of who loses is fairly straightforward.

Consumer losses are equal to the price increase they suffer ($1 to $2.1 billion as calculated above). In the first instance, shipping losses would equal the loss of the domestic trade ($1.0 billion).[15] Some have argued that idling the tankers in the Alaskan oil trade would depress rates throughout the domestic trade, increasing shipping losses significantly.[16]

The estimation of winnings is more complex. The federal government would gain windfall profits and income taxes in Alaska and California. It would lose revenues from the lost income of domestic shipping and its employees. It would incur losses on loan defaults for ships that are laid up. Estimates range widely. On the low side one finds a net loss to the federal government in the early years (as loan default expenses are borne) followed by small gains.[17] On the high side one finds estimates of gains to the treasury as high as $1 billion per year.[18]

With respect to the states, it is clear that Alaska would be a very big winner. The state government captures about half as much in taxes as the federal government, but bears few of the costs for the loss of domestic shipping revenues. The result would be a clear gain in state revenues on the order of $.25 to $.75 billion per year.[19] California might gain some in royalties and severence tax revenues but its tax rates are much lower than Alaska's, the price increase at the wellhead would be smaller there, and it would suffer a large part of the effect of the loss of shipping activity.[20]

Foreign interests would gain a little. The use of foreign flags on the Alaska to Japan run would benefit foreign shipping interests.[21] In all likelihood, Japanese refiners would bargain to capture some of the transportation cost savings.[22] The State of Alaska, in particular (with respect to its royalty oil), and oil companies, in the longer term, would be willing to offer discounts to Japanese refiners to attract their business since they have a strong interest in moving oil into the international market and out of the domestic trade.

Companies, too, would make small gains in after-tax profits.[23] However, in the short term, these gains are complicated and offset by investments in shipping and infrastructure geared to the domestic trade and contractual commitments to move oil in that trade. In the longer term, there are clear benefits to the companies in tightening supplies on the West Coast.

C. The Bottom Line: Are There Offsetting Consumer Cost Reductions?

The bottom line of direct resource transfers associated with Alaskan oil exports is that they constitute a large income transfer scheme. Consumers and shipping related interests lose several billion dollars at least (with consumers losing somewhat more). The State of Alaska is the big winner, gaining about $.25 to $.75 billion per year. Smaller gains of several hundred million dollars per year may be made by the federal treasury and foreign interests. Oil companies' gains are less than $50 million per year in the short term, but, in the longer term, they would rise to several hundred million dollars per year. The State of California appears neutral with respect to revenues, although consumer prices there would rise.[24]

Although there will be differences of opinion about the magnitude of the resource flows, we believe that this pattern of the distribution of costs and benefits is beyond doubt. For that reason, policymakers should scrutinize with extreme care those arguments which try to make the case that efficiency gains from the rationalization of world oil transportion and the stimulation of domestic oil production will be large enough to offset the negative impact on consumers. Such arguments will invariably look at financial aggregates and never ask who wins and who loses and/or they will hypothesize such large increases in the national economic pie, through increased oil production, that, in spite of a much less equitable division of the pie, consumers can be projected to be better off.

With respect to the former, there is a tendency to deny the fact that American factors of production will, of necessity, be idled by exports. By doing so, the entire reduction in transportation costs is registered as an efficiency gain when, in fact, a large part of it would stem from the substitution of foreign factors of production for American factors of production.[25]

For example, if all of the Alaskan oil currently going into the Gulf Coast is replaced by Persian Gulf oil, there is no reduction in the sea miles over which the oil will be transported.[26] There will be a dollar savings in transportation costs, but that saving is achieved by substituting foreign factors of production for domestic factors of production.[27] The world economy may achieve an aggregate decrease in the dollar cost of delivering a given quantity of oil, but the U.S. economy bears the cost of idling domestic factors of production. That is what eats up federal revenue gains, as discussed above. The extent to which the financial savings are achieved by the simple substitution of one set of factors of production for another compared to a reduction in sea miles covered will vary depending on where one believes the oil to replace Alaskan oil exports comes from. However, there will always be a significant component that is pure substitution.[28]

More important with respect to the net consumer impact is the projection of increases in oil supply. One sees projections of increases in production of as much as one million barrels per day as a result of exports.[29] With that large an increase in free world production, it can be argued that significant downward pressure will be placed on prices. This argument is frequently buttressed by the assumption that, in the period prior to the increase in production, the U.S. will be able to replace all of the oil it exports to Japan with non-OPEC oil.[30] Therefore, the downward pressure on prices is presumed to begin immediately and a net reduction in the consumer oil bill is projected.

As discussed below, the difficulty with these arguments lies in the fact that they bear no relationship to the reality of the world oil system. The production estimates are supply-side fantasies based on assumptions about the responsiveness of production to a small price increase that are three to five times larger than anything observed in the recent past.[31] The assumption that non-OPEC oil can be found to replace exports in the near term takes no note of the fact that there is little spare non-OPEC oil production capacity in the world. Further, this argument neglects the fact that the refinery configurations currently used to run Alaskan oil are best suited to run Persian Gulf oil, so that economics would dictate the use of Middle Eastern oil as a replacement for Alaskan exports. In addition, there is little spare capacity to run other crude -- especially Mexican.

In sum, there is little likelihood that these factors will give consumers any price relief. The increase in production is more likely to be on the order of 100,000 to 200,000 barrels per day, not one million, and to constitute only an accelerated pattern of resource extraction, not any great new addition to national or free world energy resources. Little if any OPEC oil will be backed out of the world market and any transportation dollar savings from the redirection of world oil trade will not flow to consumers. The tightening of the domestic market and replacement of Alaskan oil with imports will put upward pressures on domestic prices. Our basic consumer conclusion is unaltered by these counter arguments. Careful analysis shows that consumers will lose as a result of exports.

III. NATIONAL ENERGY SECURITY COSTS OF EXPORTS

A. Basic Assumptions

Whereas the analysis of the consumer costs of exports has been explicit and quantitative, the analysis of the energy impact has been implicit and qualitative at best. Indeed, in most analyses there is little or no mention of the energy impact. The usual implicit assumption is that the energy problem is solved, and that, therefore, there need be no energy impact assessment. In a few cases the assumption is made that there never was an energy problem and in a few others that exports will make a positive contribution to a solution.

We believe that this set of assumptions, which pervades the thinking of the proponents of oil exports, is not in tune with the basic energy reality of the 1980s. We believe that the proponents have underestimated the past and potential future impact of energy problems on the U.S. economy, overestimated the positive contribution that exports would make to the world energy system, and simply neglected or downplayed the potential energy costs that exports would impose.

Since this difference of opinion is over fundamental assumptions, there can be no reconciliation of differences. If one defines the situation in a particular way, it might make sense to do one thing. If one defines it another way, a different course of action will be logical.[32] We believe that the current and forseeable condition of the national and world energy systems dictates preservation of the strong national energy security protections of Section 7(d) of the Export Administration Act.

The fundamental basis for our conclusion rests on our interpretation of the massive impact that energy problems had on the nation in the 1970s. It rests on the fact that, today, the United States devotes about twice as much of our gross national product (GNP) to meeting our oil needs as we did in 1973 and about 25 percent more than we did in 1979 when Section 7(d) was first enacted.[33] Finally, it rests on the fact that the United States still import one-third of our oil and is the largest importer of crude oil and petroleum products in the world.[34]

B. The Impact of Energy Problems on the Nation

The first observation we would offer is that oil supply/price disruptions have imposed massive costs on the United States. One need only think of all the economic glee we have heard lately about the beneficial effects of a possible break in oil prices (which has not yet materialized), and combine that with the recollection that wellhead prices today are 15 times higher than they were 10 years ago, to get an idea of the grim energy picture of the 1970s.[35]

The record of the two major oil supply disruptions of the 1970s -- both of which were very small in terms of quantities of oil lost, but very large in terms of the price increases they caused -- shows the extreme difficulty that the market has had in adjusting.[36] Price increases in oil send tremors through all sectors of the economy because the ability to find substitutes for oil is low and the adjustment of prices for all other goods and services is not rapid. In the real world the rising price of oil is not simply an "efficient allocator of resources."

Moreover, the world energy market has proven to be completely unpredictable and unstable, susceptible to wild swings in price and supply that have much more to do with politics than economics. Reality has taught us that those swings, in the first instance, are the cause of disequilibria and huge adjustment costs. Those costs are registered as lost output (GNP), increased inflation and increased unemployment.[37]

Table 1 summarizes the results of econometric evaluations of the impact of energy prices on the U.S. economy in the two years following each of the major oil price shocks of the 1970s. Six different econometric models are represented in Table 1, including the most widely used -- Data Resources Incorporated and Wharton Econometric Forecasting Associates. There is remarkably close agreement in the estimation of the impact of the energy price shocks.

For every one percent of GNP that the national oil bill increased (currently equal to about $4 per barrel), GNP declined by approximately 1.3 percent, the rate of inflation increased by 0.7 percent and unemployment increased by about 0.4 percent. Those are just the short term adjustment costs. There are also longer term costs.

TABLE 1

ANALYSIS OF THE ECONOMIC IMPACTS OF THE OIL PRICE SHOCKS OF THE 1970S

MODEL	AVERAGE ANNUAL CHANGES				AVERAGE ANNUAL CHANGES PER 1% OF GNP RESOURCE TRANSFER			
	Inflation				Inflation			
	GNP Deflator	CPI	GNP	Unemployment	GNP Deflator	CPI	GNP	Unemployment
1972-75 Oil Price Shock								
Perry (FRB)[a]	1.08		2.75	1.49	.43[g]		1.08	.60
Perry (Michigan)[a]	1.33		3.73	1.34	.53[g]		1.08	.60
Dohner[b]				1.51				
Eckstein (DRI)[d]	1.37	1.60	3.07	.83	.55[g]	.64	1.22	.33
DOE								
DRI	2.0	2.1	3.2	1.2	.78	.78	1.25	.47
Wharton	1.9	1.9	3.2	1.8	.76	.66	1.25	.70
1978-81 Oil Price Shock								
Mork/Hall[c]	1.06		3.10	.83	.50[h]		1.48	.40
Eckstein (DRI)[d]	1.00	1.11	2.67	.77	.48[h]	.53	1.27	.37
Thurman/Berner[e] (MPS)	1.16	2.43	2.93	.82	.35[i]	.74	.89	.25
DOE[f]								
DRI	1.6	2.6	5.9	.6	.48	.79	1.8	.18
Wharton	2.3	2.7	5.7	.4	.7	.82	1.7	.42
AVERAGE					.55	.7	1.32	.43
STANDARD DEVIATION					.14	.09	.26	.16

Sources:

[a] George Perry, "The United States," in Edward R. Fried and Charles C. Schultze, eds., Higher Oil Prices and the World Economy (Washington, DC: The Brookings Institution, 1975), p. 96. The first quarter 1975 numbers have been utilized.

[b] Robert S. Dohner, "Energy Prices, Economic Activity annd Inflation: A Survey of Issues and Results," in Knut Anton Mork, ed., Energy Prices, Inflation and Economic Activity (Cambridge: Ballinger, 1981), pp. 34-36. Average of first three years.

[c] Knut Anton Mork and Robert E. Hall, "Macroeconomic Analysis of Energy Price Shocks and Offsetting Policies, An Integrated Approach," in Mork, Energy Prices, Inflation and Economic Activity, p. 51.

[d] Otto Eckstein, "Shock Inflation, Core Inflation and Energy Disturbances," in Mork, Energy Prices, Inflation and Economic Activity, p. 76.

[e] Stephen Thurman and Richard Berner, "Analysis of Oil Price Shock in the MPS Model," in Mork, Energy Prices, Inflation and Economic Activity. Based on the sum of the June, 1979 scenario and the additional OPEC increase scenario. (Tables 5.3 and 5.5).

[f] U.S. Department of Energy, The Interrelationship of Energy and the Economy, 1981, Chapter 2.

[g] Based on a resource transfer equal to 2.5 percent of GNP.

[h] Based on a resource transfer equal to 2.1 percent of GNP.

[i] Based on a resource transfer of 3.3 percent.

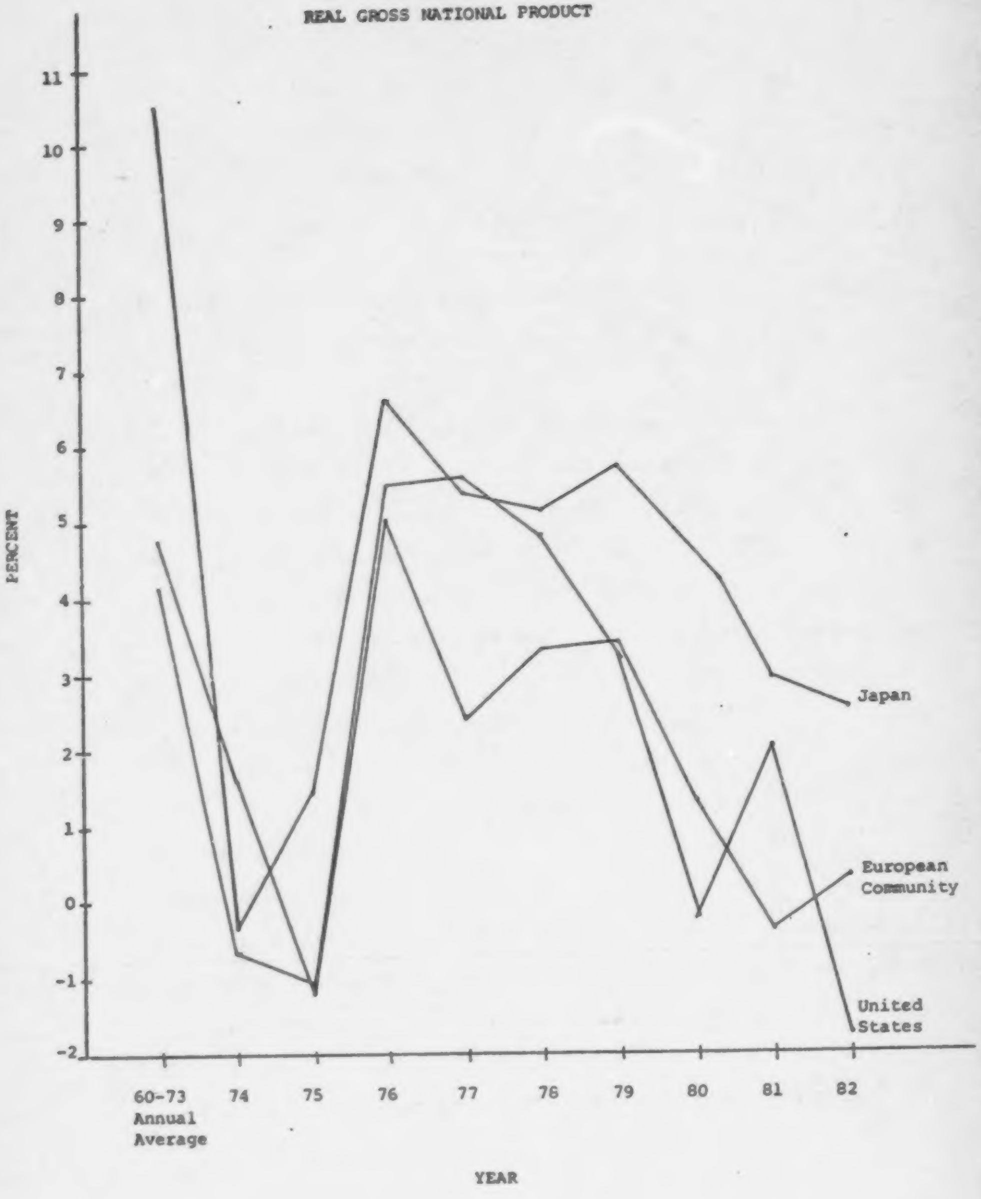
The Department of Energy, in the study referenced in Table 1, estimates that over the entire decade of the 1970s we lost an average of $40 to $50 billion of GNP per year (in constant 1972 dollars) to rising real energy prices. We suffered an additional 2 to 3 percentage points of inflation and lost 1 to 2 million jobs per year. The study attributes at least one-quarter of the decline in productivity growth and almost one-half of the decline in real fixed investment to rising real energy costs.

In spite of this track record, one frequently hears the belief expressed that since we now have a "free market" in oil, there can be no supply/price disruptions. Price will simply allocate supplies to those willing to pay so that no shortages can occur and maximum efficiency will be ensured. Such a view neglects the dramatic differences between the short and the long term equilibria and the adjustment costs of moving between the two. It neglects the fact that those who are driven out of the market or are forced to cut way back on a vital necessity such as energy feel an effective shortage.[38]

This glib view of automatic and infallible adjustments of markets to energy price changes also leads to the frequent assertion that Japan is vulnerable to supply/price disruptions whereas we are not.[39] By ignoring the costs of the adjustment process, one can too easily become fixated on imports as a percent of total consumption. Yet, as Figure 1 shows, despite their greater percentage reliance on imports, the Japanese

FIGURE 1

GROWTH RATES IN
REAL GROSS NATIONAL PRODUCT



economy came through the second oil price shock in much better shape than the U.S. economy did.

In short, our analysis leads us to the conclusion that the U.S. remains highly vulnerable to energy supply/price problems -- certainly as vulnerable as the Japanese. We believe that the world oil and energy system remains a perilous structure. Given those basics, we believe that a sound energy policy should endeavor to insulate us from the shocks of that system and to enhance our flexibility to respond to the curves that the system is likely to throw at us. We believe that exporting Alaskan oil would do quite the opposite, seriously impairing our ability to respond and damaging national energy security.

First, however, let us look at what exports will not do with respect to the world oil system.

C. The "Positive" Energy Effects of Exports

Several major claims have been made as to the benefits of exporting Alaskan oil. Most notably, one frequently hears claims that permitting exports would stimulate the production of hydrocarbons in the U.S.[40] It is argued that the price increases at the wellhead will provide stimulus to exploration and development on the Alaskan North Slope and perhaps even the California Outer Continental Shelf. (Similar claims have been made about natural gas, but that is an entirely separate issue.) Several observations on these claims are in order.

First, it is absolutely critical not to lose sight of the fact that the U.S. is still the largest importer of crude oil and petroleum products in the world and relies on imports for almost one-third of its supply. Given that, it is clear that the export of oil from Alaska will lead immediately and directly to an increase in imports from foreign nations. It makes no sense to argue, as some have, that burning a BTU of American energy in Japan makes more of a contribution to the world energy balance than burning it at home.[41] Similarly, it is irrelevant that we export coal, since we have a surplus of coal, or that we have few if any restrictions on natural gas exports, since we are self-sufficient in natural gas. The heart of the national energy problem is a deficit of domestic production of oil and particularly liquid fuel supplies, especially transportation fuels, for which there are limited possibilities of substitution.[42]

Given these basic observations, if one is going to claim benefits from exports, one must look to real additions to supply in the U.S. as the primary benefit. Further, if one wishes to define OPEC as the "energy enemy," then one can look to increases in any non-OPEC supplies as a potential benefit.

We believe that the export of Alaskan oil would have little appreciable impact on the production of oil in the U.S. At most, it would alter the time path of resource extraction, accelerating the drawdown of American reserves by 100,000 to 200,000 barrels per day. The simple fact of the matter is that the responsiveness of supplies to price increases is fairly low

-- economists say it is price inelastic. A recent review of the literature and an analysis by Paul MacAvoy, a well known conservative economist, has put that elasticity at 0.4.[43] That is, for every 1 percent increase in price, there is a 0.4 percent increase in supply.

In the case of Alaskan oil exports, this inelastic supply is coupled with a relatively modest increase in wellhead prices. Exports would raise wellhead prices by about 18 percent.[44] On existing fields, very little of that price increase passes through to producers because of windfall profits taxes. On new fields, which are not subject to windfall profits taxes, the price increase would translate into a 22 percent increase in after-tax profits, excluding profits from transportation (the Alaska pipeline and shipping profits). On overall profits on the entire Alaskan North Slope oil operation, including transportation, exports would have less of an impact, probably closer to a 16 percent increase.

These effects would induce a production increase of 6 to 9 percent, which, applied to the current base, is between 100,000 and 150,000 barrels per day.[45] The elimination of the West Coast discount might stimulate production of California crudes by a very modest amount, 15,000 to 30,000 barrels per day.[46]

Thus, it is very unlikely that new fields will be found and developed as a result of the price effect of the export of Alaskan oil. Increases in production of 100,000 to 200,000 barrels per day should be looked upon less as additions to supply than as an acceleration of the drawdown of fields that would have been developed in any event.

Moreover, it should be recognized that this acceleration of drawdown of national reserves would have very little effect on the free world's oil balance. It constitutes less than half of one percent of total production and less than 1.5 percent of current OPEC production. Consequently, one would expect only a very slight downward pressure on prices. If there were any such pressure, it would lead to price decreases of less than 1 percent.[47]

The second argument used to project benefits from exports is to assume that non-OPEC sources of replacement oil can be found.[48] If Alaskan oil is presumed to back Saudi oil out of Japan and non-OPEC oil can be imported into the U.S., we arrive at a reduction in worldwide demand for OPEC oil.

The difficulty with this approach is simply that not much spare non-OPEC capacity exists. The most frequently mentioned source, Mexico, presents physical and political problems as a potential source.

In 1982, the U.S. imported nearly 700,000 b/d of Mexican oil.[49] Mexico's total exports amounted to 1,500,000 b/d, indicating that 800,000 b/d was sold to other countries.[50] Mexican oil exports to Japan have been somewhere around 100,000 b/d. Therefore, with Alaskan oil exports to Japan on the order of 800,000 b/d and only 100,000 b/d of Mexican oil to replace it, the bulk of the oil would have to come from other sources. In addition, U.S. refineries are unable to process additional volumes of Mexico's high sulfur crude oil because of the high level of Mexican crude currently refined in the U.S. and the low demand for the slate of products that Mexican oil produces.

Even if there were the capacity in Mexico to expand exports and the capacity in the U.S. to process and use them, the bold assumption by the advocates of exports that we can simply take Mexico's oil for granted is unfounded. Exports to the United States on the order of magnitude that such proponents envision are at odds with Mexico's stated policy and intentions. As a recent article in Business Week put it:

> Right now, because of the financial crisis, there is no debate within Pemex on how much oil to produce and export. But longer term, in setting policy, Beteta [Director-General of Pemex] and de la Madrid [President of Mexico] will have to keep a wary eye not only on nationalists outside of Pemex but also on the possibility of dissent within. Mexicans' resentment of anything resembling pressure on its oil industry from the U.S. was stirred again recently by the Reagan Administration's failure to consult them on proposals to export Alaskan oil to Japan and replace it with oil from Mexico. "For each barrel of oil Mexico sells to the U.S., Mexican workers go with it," says Heberto Castillo, leader of the leftist Mexican Worker Party. "Oil only creates wealth where it is consumed, not where it is produced."[51]

The conclusion that one must reach is that the likely source of replacement oil would not be Mexico. Rather, the likely source would be OPEC members, and Persian Gulf countries in particular.

Thus, we conclude that Alaskan oil exports will not do much good with respect to the world energy system balance. Neither the short term -- replacement or substitution effects -- nor the long term -- production stimulation effects -- are likely to be very strong. Having looked at what exports will not do, we now turn to what they will do. We find that rather than doing good, they will inflict significant harm.

D. The Negative Effects of Exports

Given our perception of the world oil system as fundamentally unstable and given the demonstrated capacity of energy supply/price shocks to impose severe costs on the U.S. economy, we believe it is necessary to pursue an energy policy that enhances the flexibility of the national energy system and insulates it from the potential shocks of the world system.[52]

We believe that the export of Alaskan oil would do the opposite. In part, the problems are tangible and measurable in terms of barrels of oil. In part, the problems are symbolic and political, not measurable in any precise terms, but nonetheless real. In part, they affect the short term crisis response capacity of the U.S. by reducing our flexibility, increasing our exposure to disruptions and complicating the crisis situation should it arise. In part, they affect the long term, sapping commitments to sound policy, drawing down reserves and making coordination among consuming nations more difficult.

1. Crisis Response Capacity

The export of Alaskan crude will deal a death blow to the nation's capacity to move oil in the event of a disruption. The Alaskan oil trade engages approximately 65 percent of the domestic shipping fleet. There is agreement that approximately two-thirds of the ships in the domestic oil trade would be laid up or scrapped as a result of the diversion of oil from the domestic trade.[53] Therefore, the capacity to transport approximately 1,000,000 barrels per day on a sustained basis would be lost.[54]

The loss of that much carrying capacity would certainly reduce the flexibility of the national oil system. However, the problem is more pointed than a simple loss of capacity. Shortages in a supply disruption are most likely to be felt first on the East Coast, since the focal point of disruptions large enough to restrict seriously the flow of oil is likely to be the Middle East. As a recent study by the National Petroleum Council showed, most of the domestic surge production capacity is located on the West Coast and in Alaska.[55] If this surge capacity is to contribute to a crisis response, it must be moved by tanker. The National Petroleum Council identified West to East Coast movements of crude as the primary logistical constraint in the response capacity of the U.S. oil system. To reduce the size of the fleet by one-half would make matters much worse.

Solutions to this capacity problem which intend to mothball a part of the domestic fleet only create new problems.[56] Even if the ships could be recommissioned and crews found, the timing necessary to blunt the economic effects of supply disruptions would be destroyed. Resorting to foreign flag ships under circumstances of a disruption would be most problematic. An operative fleet is a critically important part of the national energy insurance policy.

2. The Political Cost of Oil Trade Entanglements

At the same time that exports would impair short run response capacity, they would complicate short term responses in other ways. The dependence of the U.S. on imports would be increased by as much as fifteen percent.[57] If the Alaskan crude oil export provisions of the Export Administration Act are not extended, there would be no guarantee that contract provisions with Japan or other importing countries would be written to pledge that they would relinquish their claims to American oil should a supply disruption occur.

Even if such provisions are written into the law, once the oil starts flowing to Japan, there is certain to be intense pressures to keep the oil flowing, no matter what stipulations exist in the law or contracts. Energy crises are among the most intense non-military crises we have faced in the post-World War II era. It was the abrogation of contracts between Western trading partners, rather than an actual shortfall, that set off the last price spiral.[58] These situations are of paramount importance to any analysis of the logic of exports, since no prior disruption has been large enough to trigger the International Energy Plan, although several have been large enough to set off dramatic price increases.

With the United States supplying a large part of Japanese energy needs, Japan would not willingly accept an American cutoff during an energy supply shortfall. If we did cut off the oil supply, following what would certainly be very intense negotiations, the damage to our political/diplomatic relations with the Japanese would far outweigh any benefits we might hope to reap from exports in the interim.

Moreover, as a consequence of such a cutoff, the Japanese, who have been one of the most aggressive parties in bidding up the price of oil during past disruptions, would be propelled into the spot market with even greater fury.[59] Rather than stabilizing the world oil system, exports could actually destabilize it, increasing the costs that the U.S. economy would pay should another disruption occur. When one adds in the likely increase in imports from OPEC and potential problems with Mexico over the level of their exports to the U.S., Alaskan exports become a prickly political thicket. What may look like a slick economic deal turns into a political energy nightmare.

Because of these difficult entanglements, we believe that the quantity and quality of oil available in the U.S. during future supply/price disruptions of a magnitude and nature similar to those of the 1970s could well be diminished as a result of exports. The dynamic disequilibrating effects of oil price/supply disruptions on the economy ensure that such a loss of supply will not be fully compensated for in the price we receive and the national economy will suffer as a result.

3. Symbolic Impacts of the Export of Oil

At a political/symbolic level, the exportation of Alaskan crude would make it difficult to maintain support for a variety of programs that enhance the nation's capacity to respond to disruptions in the short term and to meet long term energy problems. Most notably, the effort to fill the Strategic Petroleum Reserve would come into question.

At present, there are about 250 million barrels in the Reserve and the target is 750 million barrels. At the present fill rate of 200,000 barrels per day, the SPR will not be filled until the end of the decade. Most recent studies show that under present conditions, the SPR should be filled at twice the current rate and should be roughly twice the size that is currently planned.[60] Yet, a decision to export Alaskan crude would raise serious doubts about the need to husband the nation's energy resources. It becomes difficult to justify pumping oil into the ground for storage in the South at a cost to the federal budget of several billion dollars per year, when one is pumping it out of the ground in the North for the purpose of exports.

There are, of course, many other commitments and policy thrusts that could be undermined by such a decision, but the example of the SPR shows the contradiction in its most striking terms. It is difficult to measure just how strong the effect of Alaskan oil exports would be on other commitments. However, the Alaska decision is extremely large, affecting as much as 15 percent of the nation's oil supply. Even if one believes that the decision will affect only that quantity of Alaskan oil which is currently shipped to the Gulf and East Costs, that would still mean 7 percent of national oil production. The decision to export would consciously increase imports from insecure foreign sources by 15 percent. Such a decision would certainly have a significant effect on the support for costly, but necessary, policies pursued in an effort to reduce our vulnerability.

E. Conclusion

It should be readily apparent that by no stretch of any reasonable imagination can the consumer and national energy security protection aspects of the Export Administration Act presently be met.[61] The desire of the Reagan Administration and others to use Alaskan oil to solve other problems (budget deficits and/or trade imbalances) and their desire to fall back on other laws that do not contain those conditions, gloss over this basic fact. We believe that the reasons for the conditions are as strong today as ever, and such reasons argue for the preservation of those conditions.

FOOTNOTES

[1] In non-governmental analyses there are references to downward pressures on prices of two forms: 1) Some mention the possible passing through to consumers of transportation cost savings (see Ambassador Mike Mansfield, "The Importance of the United States-Japan Relationship," Congressional Record, February 23, 1983, p. S1505 and Ted Stevens, "United States-Japan Relationship," Congressional Record, February 23, 1983, p. S1504). However, more detailed and complete analyses assume that transportation cost savings will be captured in oil prices at the wellhead because of the world oil price mechanism. 2) Some argue that oil production in the United States would be stimulated so much as a result of exports that the added supply would put downward pressures on world oil prices (see S. Fred Singer, Milton Copulos and David J. Watkins, Exporting Alaska's Oil and Gas [Washington, D.C.: The Heritage Foundation, February 1983], p. 17). These analyses do not make net price calculations and they overestimate the stimulus to production which leads to an overestimate of the downward pressures on prices.

[2] The Administration's analyses have always projected price increases or no price reductions. A July, 1981 draft study which was made public by Senator John Melcher ("Reagan Administration Proposes to Export Alaska Crude Oil to Japan," Congressional Record, September 30, 1981, pp. S10863 - S10865) projects flat prices. Subsequent drafts included projections of price increases.

[3] U.S. Congress, House of Representatives, Foreign Affairs Committee, International Economic Policy and Trade Subcommittee, Testimony of Lionel Olmer, 98th Congress, 1st Session (April 5, 1983).

[4] The magnitude of the West Coast discount is a matter of some dispute, although its existence is not. The Administration's first two draft analyses (July, 1981 and September 1, 1981) did not incorporate the West Coast discount. All subsequent drafts did argue that the discount would be wiped out by exports. Administration estimates of the discount on California crudes varied from $3.09 per barrel (first estimate, September 24, 1981) to $1.19 per barrel (last estimate, November 1, 1981). The analysis contained in Petroleum Industry Research Associates (PIRA), Alaskan Oil Exports Revisited (October, 1981) reflects the September 24, 1981 and October 2, 1981 Administration drafts. Singer, et al., Exporting Alaska's..., p. 9, put the discount at about $2.00 for most of their calculations. Robert R. Nathan Associates, The Economic and Financial Consequences of Exporting Alaskan North Slope Crude Oil (Washington, D.C.:

October, 1981), pp. 23-26, estimates the discount in the $1.00 range. Mark Trexler, Export Restrictions on Domestic Oil (California Energy Commission, November, 1982), Appendix E, puts the discount at $1.00 with the likelihood of increases to $2.00 over the next few years. As Trexler points out, the uncertainty over the magnitude of the discount stems from uncertainties about how market power is used by certain producers on the West Coast to resist downward pressure on prices.

[5] According to Trexler, Export Restrictions..., the theoretical upper limit would appear to be about $3.50 but market conditions preclude a discount that large. The largest discount used in any of the analyses was $3.09 in the Administration's September 24, 1981 draft.

[6] The low estimate is arrived at by assuming a $1.00 discount on all crude consumed on the West Coast:

$1.00/bbl x 1,700,000 bd x 365 days = $620,500,000

The higher estimate is arrived at by assuming a $2.00 discount. There is a difference of opinion over whether California crudes would respond to changes in Alaska North Slope (ANS) crude prices, since the slate of products that they yield might still be in surplus after exports. Note, however, that the lower range estimate could be arrived at by assuming a $2.00 discount on all ANS crude consumed on the West Coast:

$2.00/bbl x 900,000 bd x 365 days = $657,000,000

Thus, we believe that the lower range is a conservative and very firm floor.

There is additional uncertainty over how much of the discount observed at the refinery gate is actually passed through to consumers. With respect to the West Coast, there seems to be agreement that a large part of it is passed through. For purposes of all subsequent discussion, we assume that the discount is passed through.

[7] Trexler, Export Restrictions..., pp. 136-137, cites U.S. DOE analysis objecting to the concept of a Gulf Coast consumer price penalty as a result of exports. ANS prices are from the Petroleum Department, State of Alaska. Average import prices are from the U.S. Department of Energy, Monthly Energy Review and Weekly Petroleum Status Report. Quality differentials between ANS crude and Saudi light are in the order of $.75/barrel (PIRA, Alaskan Oil..., p. 9.). The question of quality differentials introduces a major uncertainty in all price analyses. This uncertainty has been

underscored by the recent loud disagreement between Saudi Arabia and Nigeria over the relative price differences between the Saudi marker crude and Nigerian sweet crudes. The premium value of a crude is as much a function of world refinery capacity and worldwide product demand as it is a matter of the simple physical properties of the crude. There are many who believe that the Nigerian position -- insisting that changes in the world market have reduced the relative value of their crude compared to lower grades -- are correct.

[8] The lower estimate is derived as follows:

$2.50/bbl x 800,000 bd x 365 days = $730,000,000

The higher estimate is derived as follows:

$3.80/bbl x 800,000 bd x 365 days = $1,109,600,000

The quality adjustment is:

$.75/bbl x 800,000 bd x 365 days = $219,000,000

The Saudi differential is chosen becasue the average import price of crude in to the U.S. has been almost exactly equal to the Saudi marker price for the last 15 months. U.S. Department of Energy, Weekly Petroleum Status Report, April 1, 1983.

[9] Singer, et al., Expanding Alaska's..., p. 8. and Trexler, Export Restrictions..., Appendix E, give brief descriptions of direct relevance to the current crisis.

Philip Verleger, Oil Markets in Turmoil (Cambridge: Ballinger, 1982), Appendix, gives a detailed technical discussion of netback pricing.

[10] U.S. Department of Energy, Weekly Petroleum Status Report, April 1, 1983.

[11] Singer, et al., Exporting Alaska's..., p. 10, states it as follows:

> Initially the wellhead gains could come at the expense of the tanker owners and crews, the new Panama pipeline, and other groups involved in the transportation of the Alaskan oil to the Gulf Coast. The West Coast refiners and their consumers would also lose the present discount.

[12] Nathan Associates, The Economic and Financial..., p. 30 and Appendix E.

[13] The Alaska Statehood Commission, More Direct Action (September, 1982), pp. 13-15, makes the most aggressive case for Alaska's benefits. See also Singer, et al., Exporting Alaska's..., PIRA, Alaskan Oil..., pp. 6-7.

[14] It is important to keep in mind that much of the first round of government analysis was conducted as part of the general furor to find revenues to plug the hemmorage created by the Economic Recovery Tax Act of 1981. As a result, much of the analysis takes on a somewhat surrealistic quality in which substance recedes into insignificance and revenue impacts, no matter how small, take on overwhelming importance.

[15] This is the net operating revenue of the tankers in the Valdez to Gulf Coast trade:

$3.50/bbl x 800,000 bd x 365 days = $1,022,000,000

Nathan Associates, The Economic and Financial..., Appendix D, gives an estimate of $681 million on a trade of 500,000 bd.

[16] The magnitude of the loss depends on the elasticity of supply of shipping services. Exports would cause a 50 percent reduction of demand, so that even with a relatively inelastic supply curve, there will be additional losses. Nathan Associates, The Economic and Financial..., Appendix D, argues that losses would double because rates would be forced to reflect only lay up costs.

[17] Nathan Associates, The Economic and Financial..., Appendix E.

[18] Marshall Hoyler, "The Economics and Politics of Alaska Oil Exports," Conference on Prospects for U.S.-Japan Energy Cooperation and Competition, The Wilson Center, April 5, 1983. The highest Administration figure -- $736 million -- appears in the September 24 and October 2, 1981 drafts.

[19] The lower figure is general in the Administration analysis. The higher number is the uppper limit suggested by the Alaska Statehood Commission, More Direct....

[20] Trexler, Export Restrictions..., p. 30, discusses the offsets. Frank Camm, et al., Effects of a Severance Tax on Oil Produced in California (Santa Monica: Rand Corporation, September, 1982), Table 2.1, show state oil tax rates.

[21] Mansfield, "The Importance...," argues that the use of domestic flag vessels for the export trade would yield a net benefit for the domestic tanker industry. On several occasions the Adminstration has considered a domestic flag stipulation in an attempt to head off opposition. However, the arithmetic of exports in very large carriers would mean

very little offsetting gains for the losses in the domestic trade.

22 Most analysts agree that a significant premium would be offered to attract Japanese sales. The Administration has put the premium in the $.46 to $.67 range. PIRA, Alaskan Oil..., p. 10, uses a $.50 premium.

23 There is widespread agreement that companies end up with about $.10 on the dollar where windfall profit taxes are applicable.

24 To some extent the ledger does not balance since the price "break" consumers now receive simply disappears. Part of the federal gains are erased by factors exogenous to the direct economics as described in text, e.g., loan guarantees and unemployment payments.

25 Hoyler, "The Economics..."

26 The total distance would be about 29,000 roundtrip miles with exports compared to 26,600 miles without.

27 Nathan Associates, The Economic and Financial..., p. 15.

28 In the case of 50 percent Mexican and 50 percent Venezuelan about one-sixth of the gain is still through substitution.

29 Singer, et al., Exporting Alaska's..., Hoyler, "The Economics..."

30 Singer, et al., Exporting Alaska's....

31 Certain financial gains to the U.S. treasury based on assumptions about increases in bidding bonuses and royalties are equally fanciful. By overestimating the amount of oil in the ground, and assuming that exports would be a major stimulus to finding it, one is led to an overestimation of the value of leases and the magnitude of royalty payments.

32 The Administration's position has generally been that the problem was solved by decontrol. Singer, et al., Exporting Alaska's..., and Hoyler, "The Economics...," argue that exports will make a positive contribution by increasing supplies. The Reagan Administration's approach to energy policy has been typified by a general belief that there is no pressing problem. As Daniel Yergin, Global Insecurity (New York: Houghton Mifflin, 1982), p. 111-112, has put it:

> In contrast to its predecessors, the Reagan Administration tended to ignore the macroeconomic costs of the two oil shocks as well as the poten-

tial cost of further disruptions. Its theory of inflation simply left out the effects of the two jumps in oil prices. In consequence, it saw much less urgency in trying to protect the economy against further shocks and also, therefore, operated on some misapprehension in dealing with overall economic problems.

Finally, while the basic principles had been articulated earlier, the Reagan policy was actually implemented during a period of slack in the international oil market, as the world economy struggled with the effects of the second oil shock. This apparent calm reinforced a widespread sense of complacency. In fact, the Administration's approach depended upon a whole series of optimistic assumptions about both energy demand and supply.

The Reagan approach made sense if there were no clock ticking, if there were no reason to expedite the adjustment to rapid change in the world energy balance. But the bulk of the evidence in the early 1980s suggests that it is a risky gamble to assume that it is possible to return to the energy economy of the 1950s and 1960s and to restore the era of energy abundance, at least as it had been in the past.

[33] An estimate of the national oil bill at end use prices is as $36.9 billion in 1973, $96.4 billion in 1979 and $148.1 billion in 1982. Estimates of GNP are $1326.4, $2417.8 and $3059.3 billion in 1973, 1979 and 1982 respectively.

[34] U.S. Department of Energy, Monthly Energy Review, March 1983.

[35] Congressional Budget Office, The Economics and Budgetary Consequences of an Oil Price Decrease: A Preliminary Analysis (Washington, D.C.: March, 1983).

[36] The instability of the world oil price mechanism has become the object of a great deal of study. The process of price spirals has been studied by Verleger, Oil Markets...; Ed Krapels, Pricing Petroleum Products (New York: McGraw Hill, 1982); Dimitri Aperjis, The Oil Market in the 1980s: OPEC Oil Policy and Economic Development (Cambridge: Ballinger, 1982); and Ragei El Mallach (Ed.), OPEC: Twenty Years and Beyond (Boulder: Westview Press, 1982).

[37] The adjustment problem that rising energy prices impose on the economy has been studied in depth since immediately after the first oil price shock. The most complete discussions can

be found in Edward R. Fried and Charles C. Shultze (Eds.), Higher Oil Prices and the World Economy (Washington, D.C.: The Brookings Institution, 1975); E. A. Hudson and D. W. Jorgenson, "Energy Prices and the U.S. Economy 1972-1976," Natural Resources Journal 18 (1978); William Nordhaus, "Oil and Economic Performance in Industrial Countries," Brookings Papers on Economic Activity 2 (1980); Knut Anton Mork (Ed.), Energy Prices, Inflation and Economic Activity (Cambridge: Ballinger, 1981).

[38] As Richard N. Cooper, "A Note on Deregulation of Natural Gas Prices," Brookings Papers on Economic Activity 2 (1982), p. 383, put it:

> It is simply an evasion to claim that "shortages" cannot develop in a free market because price will rise to the point at which the market is cleared. Would-be buyers of sugar in 1974 will remember the difficulties they had in finding it, despite a free market. Furthermore, for the persons driven out of the market by high prices, especially if the expenditure is initially a consequential fraction of their income, there is effectively a shortage. And they will act politically on that perception.

A formal economic analysis of the economic inefficiency of rapid increases in prices can be derived from much of the analysis of oil price premiums. Of particular relevance would be the theoretical discussions in Douglas Boli and W. David Montgomery, Oil Prices, Energy Security and Import Policy (Washinton, D.C.: Resources for the Future, 1982), Chapter 2.

[39] Trexler, Export Restrictions..., pp. 40-41, implies greater vulnerability of Asian economies. Singer, et al., Exporting Alaska's..., p. 5, are explicit in this regard. Recent analyses of the second oil price shock show quite clearly that the Japanese did much better than the U.S. in responding to the shock. See Daniel Yergin and Martin Hillenbrand (Eds.), Global Insecurity (New York: Houghton Mifflin, 1982) and Wilfred Kohl (Ed.), After the Second Oil Price Shock (Lexington: Lexington Books, 1982).

[40] Singer, et al., Exporting Alaska's...; Hoyler, The Economic...; Stevens, "United States-Japan...;" Alaska Statehood, More Direct....

> Most important, by directly reducing the world's oil consumption, Alaskan gas exports could also help to keep world oil prices down. It would seem, therefore, that exporting Alaskan

> gas to foreign markets would be advantageous -- for Alaska and for the world in general. These advantages would not materialize if the gas were marketed only within the U.S. Alaskan gas sold in the lower 48 would not displace foreign oil; domestic usage would have no effect on the U.S. balance of payments.

[41] Singer, et al., Exporting Alaska's..., p. 16-17, make this argument in the extreme.

[42] Office of Technology Assessment, Increasing Automobile Efficiency and Synthetic Fuels: Alternatives for Reducing Oil Imports (Washington, D.C.: September, 1982) presents an interesting perspective on the liquid fuels for transportation problem.

[43] Paul MacAvoy, Crude Oil Prices: As Set by OPEC and Market Fundamentals (Cambridge: Ballinger, 1982), Chapter 2.

[44] The precise percentage will vary with current prices. I have assumed a price of $30.50 in the Gulf Coast and transportation costs of $4.50 to the Gulf Coast from Valdez (see attached table). I also assume $.50 in transportation costs to Japan and a $.50 discount to acquire access to the Japanese market. Thus, the wellhead price (line 7) with exports ($23.32) is 18 percent above the price ($19.87) without exports. Royalty and severance taxes are taken from Camm, et al., Effects of a Severence Tax..., and are set at 12.5 percent and 15 percent, respectively. The remaining estimates are based on Trexler, Export Restrictions..., p. 113, with the following exceptions: production cost are doubled and pipeline charges are escalated at .808 percent since July, 1982. The estimates of after-tax profits on transportation activities are only intended to suggest orders of magnitude. If anything, they are underestimates. For example, Trexler, Export Restrictions..., p. 114, shows a before-tax rate of profit of $1.80 per barrel, or 40 percent, on the Valdez to Gulf Coast trade. Even at a 46 percent income tax rate, this would suggest after-tax profits of close to $1.00 on shipping operations. Conversations with industry analysts lead us to believe that $2.00 per barrel in after-tax profits on pipeline operations is extremely conservative.

[45] The lower estimate is derived as follows:

.16 x .4 x 1.7 mmbd = .108 mmbd.

The higher estimate is derived as follows:

.22 x .4 x 1.7 mmbd = .150 mmbd.

Alaska North Slope New Field Economics

		Gulf Coast	Japan
1.	Delivered to:	30.50	30.00
	Less:		
2.	Shipping	4.50	.50
3.	Valdez F.O.B.	26.00	29.50
	Less:		
4.	Liability fund	.05	.05
5.	Pipeline loss	.13	.13
6.	Pipeline tariff	6.00	6.00
7.	Wellhead price	19.82	23.32
	Less:		
8.	Royalty	2.48	2.92
9.	Severence	2.60	3.06
10.	Property tax	.17	.17
11.	Production costs	1.70	1.70
12.	Depreciation	1.00	1.00
13.	Before-Tax Profits	11.87	14.47
	Less:		
14.	State income tax	.24	.29
15.	U.S. income tax	5.35	6.52
16.	After-tax Profits: production only	6.28	7.66
17.	After-Tax Profits from Transportation Operations		
18.	Pipeline transactions	2.00	2.00
19.	Shipping operation	.50	.0
20.	Total After-Tax Profits	8.78	9.66

46 Trexler, Export Restrictions..., p. 39, sees little potential supply impact. Nevertheless, the possible stimulus can be estimated as follows: We assume a wellhead price of $25.00 for California heavy oil. A $1.00 discount is equal to a 4 percent price increase whereas a $2.00 discount is equal to an 8 percent price increase. The low estimate is derived as follows:

.04 x .4 x .9 mmbd = .0144 mmbd.

The high estimate is derived as follows:

.08 x .4 x.7 mmbd = .0288 mmbd.

47 If 200,000 barrels per day are added to production that would be equal to a reduction in demand for OPEC oil of 1.4 percent. Assuming the same supply elasticities as above, we arrive at the following estimate of the reduction in price:

.014 x .4 = .006

48 Singer, et al., Exporting Alaska's..., pp. 16-17, are the most blatant in this regard:

> If U.S. exports to Japan were increased by 1 mbd, for instance, Japan could reduce its imports from Mexico by a like amount and the U.S. could replace 1 mbd of Middle East imports by more Mexican oil.

Mansfield, "The Importance...," recognizes a mix of Middle East and Mexican oil would be needed to meet the demand.

49 U.S. Department of Energy, Monthly Energy Review, March, 1983.

50 "Why Pemex Can't Pay Mexico's Bills," Business Week, February 28, 1983, p. 60.

51 Ibid., p. 61.

52 This conclusion is independent of the current soft market conditions, which are primarily a result of a severe worldwide recession. As the International Energy Agency, The World Energy Outlook (Paris: OECD, 1982) p. 25, has put it:

> Energy markets and the oil market in particular are likely to remain deceptively stable through the mid-1980s, but are projected to be increasingly tight thereafter. "Deceptively" stable because the underlying tight oil market conditions this Study projects for the latter

> part of the 1980s and thereafter are difficult to recognize in today's surplus oil market.
>
> Slackening overall energy demand together with relatively high levels of domestic oil production will contribute to a decline in OECD oil import demand over the next few years. Therefore, rising oil demand trends in OPEC and other developing countries are likley to be absorbed by the oil market without major strains.
>
> From the mid-1980s onwards, however, the oil market is likley to gradually move towards a basic disequilibrium again as growing world oil demand will be confronted with the stagnating production. In particular, oil output in North America, the North Sea and the Soviet Union is projected to level off or decline, and OPEC production could well be constrained by declining reserves in some countries and by political decisions in others. At the same time, oil import requirements are expected to rise significantly in the Third World as a result of economic development, increasing urbanization and industrialization. OECD demand for oil imports, on the other hand, would at best decline slightly from present levels if non-oil energy use grows substantially, but may well increase steeply in the absence of additional price or policy incentives to restrain oil consumption and to increase domestic production.

The Harvard Energy and Security Research Project, David A. Deese and Joseph S. Nye, Energy and Security (Cambridge: Ballinger, 1981), p. 10, argues that even in a slack market the basic vulnerability remains:

> Even if these predictions of a tightening market prove wrong, a softer market would not remove the danger of production cutbacks due to revolutions, accidents, or sabotage beyond the producer's control. If we again ignore the political fact that production decisions are controlled by the producer governments, we may be condemned to repeating the costly cycle of disruption raising prices; high prices causing reduced consumption; prices softening; crisis; and severely disruptive price increases again. Faced with risk and uncertainty abaout production decisions, we should be skeptical about all projections and carry plenty of insurance.

[53] The Administration has argued the smallest effects (see Melcher, "Reagan..."). Nathan Associates, The Economic and Financial..., gives the highest estimates.

[54] The loss of about 4 million deadweight tons is converted to 1,000,000 barrels per day by dividing by 26 days for a complete round trip from Valdez to Panama and Panama to New York and then multiplying by 7.7 bbl per ton. The result is as follows:

$$4,000,000 \div 26 \times 7.7 = 1,184,615$$

We use 26 days because there are, in essence, two separate fleets engaged in the trade.

[55] National Petroleum Council, Emergency Preparedness for Interruption of Petroleum Imports into the U.S. (Washington, D.C.: April, 1981).

[56] Hoyler, The Economics..., makes this argument. The Administration seems to have made it as well as referred to in Trexler, Export Restrictions....

[57] Exports in 1982 ran at 5 mmbd (U.S. Department of Energy, Monthly Energy Review). The projected loss of ANS crude on the West Coast is about 0.8 mmbd.

[58] Verleger, Oil Markets..., p. 12, argues as follows:

> The 1979-80 Iranian crisis offers a classic example of this process. The loss of Iranian supplies forced purchasing companies such as BP to cut back sales to third-parties by approximately 700,000 barrels a day. One large loser was Exxon, which had a third-party contract to purchase 350,000 barrels a day of Nigerian crude from BP. To balance its loss, Exxon then curtailed its third-party sales and announced intentions not to renew third-party contracts with Japanese buyers. Thus, one consequence of BP's loss of crude was to force Japanese oil companies to turn to the spot market.

Aperjis, The World Oil..., p. 19, states it this way:

> The major oil companies started reducing supplies to third-parties in an effort to insure that they would be able to cover their own crude needs. As a result pressure was brought on the small independent oil companies, which saw their supplies being at risk. These companies were

> forced to enter the spot market or to negotiate contracts directly with producing countries.
>
> Consequently, oil-producing countries saw that they could obtain higher oil prices either by selling in the spot market or negotiating with small independent companies.

The last price spiral was also typified by intense confrontations between companies and governments. The dramatic confrontation in the U.S. over prices and supplies has generated a series of legislative and judicial proceedings that continue to this very day. The phenomenon was pervasive throughout the West. To cite a few examples from Krapels, Pricing Petroleum...,

> The Federal Cartel Office in Berlin remained suspicious that the increases in the gasoline prices of the majors could have taken place in a truly competitive market.
>
> Late in 1979, Chancellor Schmidt launched a strong attack on the major oil companies. According to the Washington Post, Schmidt was angered by reports from American companies that most of their increased profits in the first three quarters of 1979 were made in Europe. He accused the companies of making fools of Europeans: "I regard these exorbitant profits as provoctive . . ."(pp. 134-135)
>
> In May, Exxon issued an unusual public statement warning the government that continued restrictions on product prices would cause shortages. In fact, on numerous occasions industry spokesmen warned that they were at a disadvantage in the world competition for supplies. And, . . . if one compares French inland to Rotterdam spot prices for finished products, that disadvantage is obvious. . .(p. 63)
>
> Italy's major supply difficulties clearly occurred in the first half of 1979. The unwillingness of Italy's export-oriented refiners to sell products in the Italian market even provoked the government to issue a decree in May requiring foreign companies that were having some of their crude processed in Italian refineries to sell 35 percent of the resulting products to Italian companies. According to government officials, this decree was never enforced. Nevertheless,

> the decree came under heavy attack from companies and Italy's partners in the EEC. . .(pp. 70-71)
>
> Given that some Swedish product importers lost access to supplies at reasonable prices, they had to contend with another trade-off: should they acquire spot cargoes or even seek medium- to long-term contracts at prices which could not be recovered under the price ceilings? . . .
>
> This was a difficult situation for all concerned. Companies are likely to have believed that their refusal in say, April 1979, to purchase normal quantities of imports would pressure the government to raise price ceilings. The government, with one eye on the consumer price index and the other on the general election scheduled in September, must have wanted to avoid the appearance of "caving in" to the product importing companies. It did raise heating oil prices in February, March and May, but the difference between the ceiling and the price of gas-oil in Rotterdam remained quite substantial. . .(pp. 78-79)
>
> Petrofina is as vociferous as any other refiner in Belgium when it comes to dealing with the government over policies the industry considers inimical to its interests. During the 1970s, the biggest bone of contention was the state's control over oil prices. The proper levels of price ceilings and floors has been a difficult issue for years, with the most serious disagreement occurring in early 1974, after the fall of the government in January. According to one account of this incident, the Belgian oil industry, including Petrofina, curtailed crude shipments in May to raise prices. As a result, the government negotiated a price-setting formula. . .(p. 93)

[59] Yergin and Hillenbrand, Global Insecurity..., pp. 325-329.

> Although the United States sought to discourage spot market purchases and France advocated restraints, IEA and EEC countries were unable to agree on such measures. The Germans and Japanese were particularly active on the spot market, in part because of their bouyant currencies, strong balance of payments positions and competitive economic strength. . .

> Not even the principal importing countries shared full agreement in Crises I and II. Japan, the major country most dependent on oil imports, was among those most reluctant to cooperate.

[60] See, for example, Glen Swetnam, "Stockpile Policies for Coping with Oil Supply Disruptions," in George Horwich and Edward J. Mitchell (Eds.), Policies for Coping with Oil Supply Disruptions (Washington, D.C.: American Enterprise Institute, 1982) and Plummer, Energy Vulnerability.

[61] Some have argued that the conditions can never be met. That is not the case at all. If the world oil system were a properly functioning market, one could easily foresee a circumstance in which regional supply/demand balances and producers willing to supply petroleum at prices that reflect the cost of production rather than political decisions would make three way deals or even free trade in oil beneficial to consumers and to national energy security. It was the failure of the world oil system to function as a true market that made the conditions necessary and it is the continuing failure of that system that underlies the need for the conditions. Bohi and Montgomery (Oil Imports ..., p. 8), argue strongly that free trade should not be pursued in oil precisely because of the breakdown of the market mechansims and the vital importance of oil to economic activity in industrial societies:

> There are three reasons why oil is a special case. The first and most obvious is that the supply of oil is not determined by conventional market forces, but is already controlled to some extent by exporters for there own self interest... Second, the exercise of monopsony power [the power of consumers to affect the supply-demand balance by non-market actions] is considered beneficial rather than harmful to other oil-importing countries because their energy costs are reduced as well....
>
> Finally, and probably most important, is the economic vulnerability argument. World oil supply is unstable and governments have an obligation to protect their economies from the destabilizing effects of changes in world oil prices. In short, the importance of oil in an industrial economy as well as in world trade and the peculiar characteristics of world oil supply, make oil a unique commodity that justifies deviation from conventional rules governing trade policy.

Senator MURKOWSKI. Thank you, Mr. Marlowe. I am going to recognize Senator Pell, who is short on time and wants to make a statement at this time.

Senator Pell obviously is the ranking minority member of the committee, with Senator Percy as the committee chairman. I welcome you to the committee, Senator Pell.

Senator PELL. Thank you very much indeed, Mr. Chairman, for allowing me to plunge in for a moment. I particularly wanted to hear Mr. Marlowe's testimony. I have one question for him, which in the question period, or afterward for the record I trust you will reply.

That question is, do you really believe that greater dependence on Persian Gulf oil serves our American interests? I would be interested in your arguments in this regard, in what way you think greater energy independence promotes American interests. You have answered those partially in the statement. I would be interested in a fuller explanation for the record afterward, if you would. I will also have other questions for all members of this panel to provide answers for the record.

Mr. MARLOWE. I would be happy to do that, Senator.

Senator PELL. I thank the chairman for his courtesy in letting me come in at this time and wish him well with his hearings.

Senator MURKOWSKI. Thank you very much, Senator Pell.

We will proceed with the panel at this time and we will call on Mr. Jack Goldstein, vice president and senior economist for the Overseas Shipholding Group in New York. We welcome you to the committee and we look forward to your testimony.

STATEMENT OF JACK GOLDSTEIN, VICE PRESIDENT AND SENIOR ECONOMIST, OVERSEAS SHIPHOLDING GROUP, NEW YORK, N.Y.

Mr. GOLDSTEIN. Thank you, Mr. Chairman.

The subject of Alaskan oil exports has been reviewed many times over the past decade. Therefore, it is surprising to me that the discussion relating to shipping by the proponents of exports has been so consistently inadequate, despite years of opportunity to learn and to gather the facts.

Implicit in the criticisms that are made is that the protection provided by the Jones Act insulates coastal tankers from the rigors of competition and that in consequence oil transportation rates in the Jones Act trade are lucrative or excessive. But what is the recent experience with regard to this domestic fleet?

More than 60 percent of the 10.8 million deadweight ton capacity of the American tanker fleet is owned or controlled for the long term by oil companies. The freight market, then, is determined mainly by the supply-and-demand balance for the remaining fleet of independently owned vessels. Of the roughly 100 independent vessels in existence at the beginning of 1982, more than 50 have been scrapped or laid up, and a list on a ship-by-ship basis is attached to the written testimony, Mr. Chairman.

This development has resulted from several factors, including substantial new vessel construction, the decline of Alaskan trade requirements following the completion of the Panama pipeline, the relaxation of controls on exports of refined products in 1981, and over a long period increased competition from barges and from products pipelines in the continental United States.

Of the still active independent tankers, aside from ships performing under preexisting time charters, all independent tankers under 100,000 tons are unprofitable. In fact, during the past few years time charter rates for this class of ship have declined by 40 to 60 percent. So much for freight rates.

Another general impression not validated by the facts is that the fleet serving the ANS trade is antiquated. Due again to the steady flow of new capacity, the ability to use larger vessels after the completion of the Panama pipeline, and the requirement to install very expensive safety equipment on crude oil carriers, the Alaska fleet is now highly modern.

In excess of $4 billion have been invested in domestic tankers since 1970, and at the present time 86 percent of the Alaska fleet is composed of tonnage built or rebuilt since 1970. Even the handful of older vessels has had to undergo retrofitting to comply with the safety standards for crude oil carriers which became fully effective at the beginning of June 1983.

I will give you one specific example of a shipowner I am familiar with. He had a 20-year-old ship. He retrofitted at an expense which represented close to three-quarters of the original capital cost of the vessel on delivery.

More recently, it has been suggested that if a U.S.-flag domestic tanker requirement could be applied to Alaskan exports, the industry would be made whole. In the first place, it must be presumed that this export would be carried by the subsidized VLCC class. Three ships would suffice for the entire movement that has been mentioned. That is about 200,000 barrels a day.

Even if the flag preference could be applied only to unsubsidized tankers, which would require special legislation, the fact is that the shorter voyage to Japan requires half as much tanker tonnage as the trip to the U.S. gulf. Two hundred thousand barrels per day would, as we have said, require three subsidized VLCC's, but would drop coastwise requirements by 1.4 million deadweight tons. If carried by Jones Act ships, the effect would be to reduce coastwise requirements by 700,000 tons.

While the shift would represent a 10-percent reduction in the total demand for tankers in the Alaska trade, in terms of the nonproprietary segment, the independent fleet, the decline in demand with a flag preference would be close to 25 percent. Even with a small volume and with a U.S.-flag requirement on exports, the impact upon shipowners, independent shipowners, would not be much different from a larger volume of export and no flag requirements. Virtually all independent tankers would become an economic burden to their owners.

This committee should be aware that this persistent controversy, stretching out over a decade, itself raises transportation costs by forcing the producers, the North Slope producers, to avoid long-term commitments. Rather than commit to longer time charters or pipeline throughput agreements at lower costs, the North Slope producers are forced by the possibility of exports to limit their exposure to the shortest possible period.

Long-term commitments made possible by the end of this controversy would have direct and significant financial benefit to all parties concerned. In fact, I believe that the tax revenues generated by the ability to undertake long-term commitments probably would outweigh the increase in tax revenues resulting from the export of 200,000 barrels a day.

The lack of understanding and knowledge about shipping has colored all of the consultant papers and government studies that have supported exports. The paper prepared for Alaska Lumber and Pulp is perhaps typical, not worse, perhaps even slightly better than most. Let me give a few examples of the lack of knowledge, the lack of knowledge of specific facts very pertinent to the issue.

The study claims that the capacity of the domestic tanker fleet fell 54 percent in the past 15 years. In fact, the fleet expanded from 8 to 11 million tons.

The study provides an estimated that about 500,000 barrels a day would be exported based upon the assumption that the producers would sell to the market providing the best return. This is a reasonable approach. However, due to the lack of specific knowledge, the results fall short of reality.

It is suggested that since Sohio owns no vessels, all of its crude oil moving to the gulf would be exported. This ignores the reality that Sohio has 1 million tons of tanker capacity on long-term charter that are equivalent to ownership. Whether or not Sohio exports, the charter hire must be paid.

But look more closely at this idea. As independent tankers complete their charters, oil would gradually become available for export. Proprietary vessels would be protected as oil sufficient in volume to use the ships would remain domestic to maximum producer profitability. But most of the independent fleet would be forced into layup as the exports mounted.

Is this a fair resolution? In this light, the authors suggest that anyway the fleet is aging and that large vessels will be phased out in 15 years. This is news to Sohio, with charter obligations extending past 20 years and to my company, with our obligations ranging from 20 to 25 years.

In addition, some comment is appropriate with respect to the so-called maritime subsidy. Of course, the estimated cost presented by Mr. Hogan yesterday of $5.25 per barrel on oil moving through Panama is wrong. I see $4 a barrel on the chart to your right. Depending upon whether the current market rates are used or average costs are used, the transport expense is either slightly below or slightly above that $4 a barrel.

But what is included in that cost? Is the Panama pipeline tariff of $1 a barrel a maritime subsidy? Is the cost of fuel for the ships and the cost of bringing the ships into port, into Valdez and paying the port charges in Valdez and in Galveston and in Houston, is that a maritime subsidy? Isn't the domestic tanker industry an integral part of the American transport system, all of which is based upon full American costs? Is the trucking industry or the barge industry to be considered subsidized? I think not.

Finally, I would like to suggest to the committee that these hearings have not explored an important aspect of the problem. The Department of Defense is on record as opposing Government policies that lead to the early retirement of commercial tankers, particularly of the smaller sizes.

It seems of importance that the committee should ask the Department to evaluate the consequence to national security of this proposal.

Mr. Chairman, I thank you.

[Mr. Goldstein's prepared statement follows:]

Prepared Statement of Jack Goldstein

I would first thank you for the chance to present some ideas about Alaskan oil and the transportation of that oil from the perspective of a U.S.-flag tanker owner. Overseas Shipholding Group, Inc. owns and operates the largest independent U.S. flag tanker fleet, with more than 1 million dwt of carrying capacity and an investment in ships, at cost, of approximately $400 million. The replacement of that fleet, at today's shipyard prices and interest rates would require a capital outlay approaching $1.5 billion. All of the 16 tankers in our fleet were built or acquired at our risk, i.e. without charters at the signing of construction contracts or purchase.

The subject of Alaskan oil exports has been reviewed many times over the past 10 years and most intensively since 1981. Therefore, it is surprising that the discussion relating to shipping by the proponents of exports has been so consistently inadequate, despite years of opportunity to learn and gather the facts.

Among the major misconceptions concerning this issue is the belief that oil transportation rates in the Jones Act trade are "lucrative" and that the protection provided by the Jones Act insulates coastal tankers from the rigors of competition.

What is the recent experience of the domestic fleet?

More than 60 percent of the 10.8 million deadweight ton capacity of the domestic fleet is owned or controlled for the long term by oil companies. The freight market is determined mainly by the supply and demand balance for the residual fleet of independently owned vessels.

Of the roughly 100 independent vessels in existence at the beginning of 1982, more than 50 have been scrapped, laid-up, or transferred to the National Defense Reserve Fleet. This striking development has occurred as a result of a number of factors, including a substantial amount of new vessel construction, the decline of Alaskan trade requirements following the completion of the Panama pipeline, the relaxation of controls on exports of refined products and other regulatory changes, and increased competition from domestic barges and clean products pipelines. Of the still active independent vessels, aside from ships performing under preexisting charter arrangements, all independent tankers under 100,000 tons are unprofitable. In fact, during the past few years, time charter returns have declined by 40 to 60 percent. A typical 50,000 ton tanker in today's market will find himself indifferent to continued operation or lay-up—his losses will be about the same in either case.

So much for lucrative freight rates.

Another general impression not validated by the facts is that the fleet serving the ANS trade is antiquated. Due to a steady flow of new capacity, the ability to use larger vessels from the new pipeline terminus in Panama, and the requirement to install expensive safety equipment on crude carriers, the Alaska fleet is now highly modern. In excess of four billions have been invested in domestic tankers since 1970 and at the present time, 86 percent of the ANS fleet is composed of tonnage built or rebuilt since 1970. Even the handful of older vessels have had to undergo retrofitting to comply with the safety standards and to meet the demands of the market, with new investment in 1982-83 alone exceeding $100 million.

There is a general understanding that the export of Alaskan oil to the Far East could have negative national defense implications. Proponents suggest, however, that this problem can be solved by direct purchase by the Federal government and placement of suitable tankers into the Reserve fleet. There should be no doubt that this program is a poor substitute for continued operation. Trained crews are not maintained, and the vessels, without very expensive regular maintenance, will deteriorate rapidly.

There is already a clear inadequacy in the number of suitable U.S.-flag tankers potentially available to the Navy in a national emergency situation and the number is rapidly shrinking. Exports of Alaskan crude would only exacerbate the problem.

More recently, the idea has arisen that if a U.S.-flag domestic tanker requirement could be applied to Alaskan crude exports the industry would be made whole. Even if the flag preference could be applied wholly to unsubsidized tankers, a result that would require legislation, the fact is that the shorter voyage to Japan requires one-half as much tanker tonnage as the trip to the U.S. Gulf. At 200,000 barrels per day, tanker requirements would drop from 1.4 million tons to 700,000 tons. While this shift would represent a 10-percent reduction in the total demand for tankers in the Alaska trade, in terms of the nonproprietary segment the decline in demand would be close to 25 percent.

Even with this small volume and with a U.S.-flag requirement on exports, the impact upon shipowners would not be much different than with a larger volume of export and no flag requirements. Virtually all nonproprietary tankers would become economic burdens to their owners.

This Committee should be aware that this persistent controversy itself raises transport costs by forcing the producers to avoid long-term commitments. Rather than commit to multiyear time charters or pipeline throughput agreements at lower costs, the North Slope producers are forced by the possibility of exports to limit their exposure to the shortest possibility period. Long-term commitments made possible by the end of this controversy would have direct and significant financial benefit to all parties concerned, including the State of Alaska.

The uncertainty engendered by the possibility of exports also is thwarting any possibility of new construction, a factor which distorts what otherwise is an intensely competitive market.

In short, there are no beneficiaries from the lingering debate on this issue and, in fact, there are significant costs.

U.S. shipowners, under the law, took large economic risks to provide the market with tanker capacity of the size and quality required by the new market generated by the North Slope discoveries. To change the law, to negate that investment long before full capital recovery, would represent a breech of faith by the Federal government.

To summarize, the domestic tanker market has been weakening for some time and market time charter rates have dropped to well below breakeven levels for tankers below 100,000 tons. As preexisting charters expire, total transport costs will drift down.

The Alaskan tanker fleet is now composed almost entirely of modern expensive vessels.

National defense interests in a U.S.-flag tanker fleet cannot be as adequately served by purchasing surplus ships for the Reserve fleet as by keeping the ships in operation.

The fleet cannot be protected by a U.S.-flag requirement on shipments to the Far East.

In conclusion, I would say to the committee that the revenue benefits to the State and Federal Government generated by the ability to enter into long-term contracts for shipping and pipelining would significantly outweigh the benefits generated by exporting 200,000 barrels per day.

LAY-UPS OF UNSUBSIDIZED TANKERS, BY DURATION OF IDLE STATUS AND OWNERSHIP

Vessel	DWT (thousands)	Ownership	Date of Lay-up
Lompoc	16.7	Oil company	February 1981.
Scorpio	24.5	Independent	June 1981.
Capricorn	24.4	do	Do.
Pisces	24.4	do	Do.
Red River	25.6	do	April 1982.
Cove Spirit	25.2	do	Do.
Mona	19.9	do	May 1982.
Brazos	24.0	do	Do.
Texaco Kansas	24.7	Oil company	June 1982.
Ogden Willamette	37.9	Independent	Do.
Overseas Anchorage	47.4	do	July 1982.
Monmouth	29.8	do	August 1982.
Arco Endeavor	30.3	Oil company	Do.
Overseas Ulla	35.7	Independent	Do.
Saroula	31.8	do	Do.
Suzanne	19.9	do	October 1982.
Overseas Aleutian	39.8	do	November 1982.
Gulf Solar	29.2	Oil company	January 1983.
Trinity	24.2	Independent	March 1983.
Medina	30.2	do	Do.

LAY-UPS OF UNSUBSIDIZED TANKERS, BY DURATION OF IDLE STATUS AND OWNERSHIP—Continued

Vessel	DWT (thousands)	Ownership	Date of Lay-up
Charleston	39.4	do	April 1983.
Dina	30.3	do	Do.
Texaco Massachusetts	25.7	Oil company	Do.
Bordeaux	27.2	Independent	May 1983.
American Trader	27.6	do	April 1983.
Cove Navigator	31.9	do	Do.
Mount Washington	49.5	do	May 1983.
Overseas Joyce	46.9	do	Do.
Frio	25.5	do	Do.
Sabine	28.7	do	Do.
Houston	27.0	do	Do.
American Osprey	33.0	do	Do.
Mobiloil	30.1	Oil company	Do.
San Jacinto	26.9	Independent	June 1983.
American Eagle	33.1	do	Do.
Total	1,048.4		

Summary: Oil company: 156.7; Independent: 891.7.
Percent of U.S. fleet in lay-up is 9.7.

SCRAPPINGS, LOSSES & OTHER DELETIONS OF U.S. UNSUBSIDIZED TANKER FLEET

Vessel	DWT (thousands)	Disposition
1981:		
Pure Oil	16.5	Scrap.
Intrepid	18.1	Do.
Amoco Connecticut	20.8	Do.
Transerie	20.3	Do.
Angelina	18.1	Do.
Total	93.8	
1982:		
Neches	16.6	Do.
Little Apex	21.0	Do.
Meursault	27.6	Do.
Austin	26.9	Do.
Coastal California	28.4	Do.
Virgo	24.5	Do.
Cove Engineer	32.0	Do.
Perryville	25.1	Do.
American Hawk	26.9	Do.
Point Julie	24.6	Do.
Monticello Victory	49.3	Total loss.
Point Milton	20.8	Scrap.
Chancellorsville	25.2	NDRF.
Exxon Florence	25.5	NDRF.
Total	374.4	
6 mos 1983:		
Wilmington Getty	25.2	Scrap.
Blanco	20.2	Do.
Hermitage	34.8	Do.
Point Margo	33.8	Do.
Point Revere	20.7	Do.
Washington	16.2	Do.
Coastal Kansas	28.0	Do.
Cove Explorer	24.6	Do.
Pommard	28.8	Do.
Pasadena	27.0	Do.

SCRAPPINGS, LOSSES & OTHER DELETIONS OF U.S. UNSUBSIDIZED TANKER FLEET—Continued

Vessel	DWT (thousands)	Disposition
Naeco	31.0	NDRF.
Cove Communicator	32.0	Scrap.
Meadowbrook	27.2	Do.
Total	349.5	

Senator MURKOWSKI. Thank you, Mr. Goldstein. I appreciate your testimony.

We will move on to Dr. Mark Cooper. Dr. Cooper is Research Director, Consumer Energy Council of America in Washington. Please proceed, Dr. Cooper.

STATEMENT OF MARK COOPER, RESEARCH DIRECTOR, CONSUMER ENERGY COUNCIL OF AMERICA, WASHINGTON, D.C.

Mr. COOPER. Thank you, Mr. Chairman.

Having debated this issue before both Houses of Congress and at a congressional seminar over the past 4 months, I think it is safe to say we know where the debate stands with respect to consumer prices and energy security. What we have here are two dramatically opposed views of how the world oil system works.

We are convinced that the price-setting mechanism in the international system is totally flawed, while the price-setting mechanism of the U.S. market functions less imperfectly. As the largest and most regionally isolated submarket in the world system, local supply/demand factors have worked in the west and gulf coast regions to keep prices down. The witness from the Department of Energy conceded the west coast, so maybe we closed some ground today.

Consumers, we think, do get a price break as a result of policies that are currently in force with respect to Alaskan oil. Therefore, we urge their continuation.

Furthermore, because we believe that when the world oil system goes haywire, which it has a disturbing tendency to do at irregular but nevertheless frequent intervals, the current policies with respect to Alaskan oil will cushion the blow. Therefore, we urge continuation of these policies.

Now, if you believe that there is one and only one price of oil and that regional and local conditions of supply, demand and competition do not affect that uniform price, you will not accept our price difference argument. But we have looked at the empirical record and we are convinced that our analysis fits the facts better than the uniform price argument.

I am not one to readily praise the domestic oil industry, but the empirical reality is compelling and it strongly sugests that given the current malfunctioning of the world oil system, the conditions on Alaskan oil exports, which create a favorable supply/demand balance in several regions of the country, are an intervention in an imperfect market that works to the consumer's benefit.

Let me illustrate this difference in perspective with respect to testimony by prior witnesses. Most witnesses have insisted that the

Saudis set the price of oil. One witness yesterday went on to say that Saudi oil is abundant. Another witness today talked of a completely free market and oil being available at the going price.

From our point of view, Saudi oil is not abundant by any means. The market is not free by any means. In the past 2 years, Saudi production has fallen by 60 percent. The production of oil in the west and gulf coast regions in this country is now almost one and a half to two times Saudi production. In spite of that collapse of Saudi output, you cannot buy a drop of Saudi oil for less than 15 times its marginal cost of production. Because they refuse to sell oil, Saudi oil has been almost completely backed out of the gulf coast.

In the same time period that Saudi total output fell 60 percent, imports of Saudi oil into the gulf coast have fallen over 80 percent. Saudi oil is priced by politics, not market economics. Economically priced Alaskan oil has played a significant part in backing out politically priced Saudi and OPEC oil from the gulf coast.

If oil were priced by market economics, I suggest, the price of Alaskan oil would probably tumble dramatically, by $8 to $10 a barrel. Thus, our understanding is that the Saudis have tried to set a price that is $12 to $15 above where it should be, but local market forces, with Alaskan oil a driving force, have pulled the price down on the gulf and west coasts. We seek to preserve that downward pressure on price.

Similarly, with respect to energy security, if you believe that oil is perfectly fungible and that all economic adjustments are instantaneous and costless, you will not be able to understand how creating a distinctly American transportation infrastructure and maintaining immediate assured access to as much oil as possible under domestic control can be of use.

But, we have looked at the empirical record of both of the energy price shocks and we are convinced that oil can and has been sold at widely varying prices at any moment in time, especially during a disruption. Moreover, that occurs because short-term adjustments to disruptive price shocks are very imperfect and can be costly if you are on the wrong side of those adjustments. We believe that oil is not perfectly fungible and industrial economies are not perfectly maleable.

Consequently, during disruptions you want control over oil, not dollars, and you want the capacity to get oil to those regions that are most subject to shortage. In that way you can keep local prices down as much as possible and maintain as much economic activity as possible.

If we damage the massive infrastructure to move oil that has been built up in the past decade and that is certain to be functional for the next decade, we would render ourselves more vulnerable to greater economic losses from the next oil price shock. Thus, we believe the continuation of current policy is in the consumer interest.

Again let me demonstrate these differences of perspective which are overwhelming with respect to energy security by reference to previous testimony.

A witness yesterday suggested that in the event of an OPEC oil disruption exports could reduce the likelihood of panic buying. Another witness argued today that an important aspect of the world oil market is that oil and petroleum products are exchanged widely among consumers as well as between consumers and producers. But the essence of supply shortfalls, especially the small ones such as the Iranian shutdown which triggered the last price shock, is quite the opposite.

Oil ceases being traded as contracts are abrogated and as people hold their oil, watching what is going to happen. If we try to recoup our oil during such a disruption, we cannot restrict panic buying. But shouldn't we try to recoup it? Everyone abrogates their contracts during these incidents.

The first rule of disruption behavior has proven to be that he who abrogates first suffers least. Is the price of leadership that we talk about the fact that the American people would try to absorb the added costs of a disruption? If so, then let us say it that way.

Only if you put the stipulation in the law that all exports are all weather exports, never to be interrupted, can you guarantee a reduction of panic buying by some nations, and only if you stay out of the market yourself while you make that guarantee in the aggregate. I do not think you can or should make such promises. If you do not make such a promise, you will be faced with renegotiating the status of a very large quantity of oil under the most intense political conditions imaginable.

The political and economic costs are guaranteed to be huge, and absent those stipulations I think the positive impact on panic buying is likely to be very small and it might in fact be negative.

Thank you, and I will be glad to answer any questions.

Senator **Murkowski**. Thank you very much, Dr. Cooper.

You indicated that you had made similar presentations on three or four occasions before various hearings on Capitol Hill within whatever the frame of time was. In those presentations, was there any consideration given to the alternative or was the question addressed with regard to utilization of U.S. bottoms for export of Alaska oil?

Mr. **Cooper**. No, I do not think so.

Mr. **Marlowe**. No.

Senator **Murkowski**. Have you given that or are you prepared to submit for the record within the next 2 weeks an evaluation on what effect that would have on the American maritime marine tanker fleet as we know it currently?

You have indicated you are against that, Mr. Goldstein, but I wondered if you have or have any intention of determining just what specific effect that would have.

Mr. **Goldstein**. I would be glad to submit it formally.

[The information referred to follows:]

IMPACT OF ALASKAN CRUDE OIL EXPORTS ON DOMESTIC TANKERS

The shipment of crude oil from Valdez to Japan would reduce the tanker capacity required by close to 50 percent when compared with the domestic distribution system now in place. In terms of number of vessels, the decline would be greater than 50 percent since exports to Japan could be handled entirely by very large crude carriers while shipments to the Gulf from Panama require the use of small and medium-size crude carriers.

The estimates are as follows:

Voyage distance (1-way):	*Miles*
Valdez/Yokohama	3,400

Valdez/Puerto Armuelles	4,685
Chiriqui Grande/New Orleans	1,450
Total domestic	6,135

Speed: 15 knots or 360 miles/day.
Port time: 4 days.
Annual operating days: 350.
Average load: 96 percent of deadweight.
Barrels/ton: 7.2.
National ships: foreign—2,500,000 deadweight tons; domestic—170,000 tons, 60,000 tons.

VOYAGE CALCULATIONS

	Valdez/Yokohama	Valdez/Puerto Armulles	Chiriqui Grande/New Orleans
Number of days steaming (including reserve)	19.5	27.0	8.5
Number of days in port	4.0	4.0	4.0
Total days/voyage	23.5	31.0	12.5
Number of voyages/year	14.9	11.3	28.0
Lift/voyage (thousands of tons)	240	163.2	57.6
Annual lift (thousands of tons)	3,576	1,844	1,613
Total lift at 200,000 B/D=10,140,000 tons			
Number of vessels required	2.8	5.5	6.3

Number of vessels required 11.8 or 3 versus 12 vessels a reduction of 9 ships or 75 percent in terms of capacity required equals 0.7 million tons versus 1.31 million tons or 47 percent.

The impact of a limited volume of exports, even with the U.S. flag requirement, would be substantial. First under existing law, exports would be carried by subsidized tankers rather than Jones Act vessels. Even if this law were changed, a reduction of 600,000 to 700,000 tons in shipping demand (depending upon destination) would represent a major part of the requirement for independently owned tonnage. Already, before such exports, the freight market has fallen to a point where all unchartered tankers below 100,000 tons are receiving rates below break even and where most tankers below 50,000 tons barely cover their operating costs, if that. Even modest exports would accentuate already existing large tonnage surpluses and extend the period of substantial economic losses.

In my remarks today I did give you a brief.

Senator MURKOWSKI. You mentioned three ships on a tonnage basis.

Mr. GOLDSTEIN. Three subsidized very large crude carriers of about 250,000 tons each would be sufficient to move 200,000 barrels a day to Japan.

Senator MURKOWSKI. What is the present average size of the ships utilizing the west coast route between Valdez and Panama at the present time?

Mr. GOLDSTEIN. Approximately 175,000.

Senator MURKOWSKI. So these would be bigger ships, considerably, which I would assume have more crude proportionately to tonnage?

Mr. GOLDSTEIN. Yes. I would say the ships used to Panama today range from 120,000. to the same 265,000 ton ships, depending upon what vessels the oil companies need, and the ships independent owners actually built years ago.

Senator MURKOWSKI. Do you believe that the tankers that are operating currently in the American flag fleet that is in the Alaska trade have the operational and economic capabilities to carry that oil to Japan?

Mr. **Goldstein**. At a higher cost.

Senator **Murkowski**. At a higher cost?

Mr. **Goldstein**. Than foreign-flag ships.

Senator **Murkowski**. Surely.

Mr. **Goldstein**. Any ship that can go into Valdez can go anywhere in the world.

Mr. **Marlowe**. Mr. Chairman, if I might interject on this point, our opposition to the proposal is based on the fact that we are still talking about shipping U.S. oil and a raw material which we consider a precious domestic resource to Japan. Japan would like to have it, there is no doubt about it, to fuel its industries.

The people who have been involved in Japan in supporting the efforts to remove the export restrictions have been people who have been involved with Nippon Steel and the Japanese Chamber of Commerce and the like, and understand it very well. That is a raw material that they can use to produce finished products which they can sell elsewhere, including in this country.

If we take a look at it from a trade point of view, it is far better for us to be selling our finished products with all of the inherent labor that has gone into them to the Japanese than to be selling them raw materials, whether it be under a limited export or high volume export.

Senator **Murkowski**. A surplus of crude oil on the west coast, which has grown, I think, beyond original estimates for a number of reasons has become a reality. And, as a consequence, as that excess increases it has got to go where it is currently going, which is down to Panama and across the canal pipeline and to distribution in other places. But the proximity of Mexican oil is a reality and we know that the pipeline that was proposed to be built by Sohio from Long Beach was never built.

Any of these could have had an effect on the tonnage we have in the fleet today by the very nature of the law, the Jones Act, and the availability of oil. The fleet size is basically dictated from that base.

I think you would agree with that. That is just a fact. But what I am concerned about is the nature of the age of the fleet in relationship to the replacement requirement, assuming that the status quo remains. Now you gentlemen are much more familiar with the situation, but I assume you have a more modern fleet, probably, in the carriage from Valdez to Panama than you do in the Atlantic Fleet, the mosquito fleet, the smaller fleet that is dispersing from the Atlantic side of the isthmus into the gulf and up and around. Is that generally the case?

Mr. **Goldstein**. Less and less the case.

Senator **Murkowski**. Less and less the case. There are new ships being built, then?

Mr. **Goldstein**. New ships have been built. The requirement itself has declined by about 25 or 30 percent because the pipeline cuts off maybe 25 percent of the distance in the trade. They are able to utilize bigger ships for the first time.

Senator **Murkowski**. In the Atlantic?

Mr. GOLDSTEIN. In the Atlantic. They are able to utilize bigger ships at full cargo for the first time. Before, you had big ships that could only pass through the Panama Canal with a part cargo. Now they can take a full cargo. So the tonnage requirements are down, I would guess, about 30 percent since the pipeline has come into play.

Virtually all of the older ships, small older ships, are not in the trade any more. They have been laid up.

Senator MURKOWSKI. How many ships were displaced by the pipeline when it was built, the 80-mile pipeline across the Isthmus of Panama?

Mr. GOLDSTEIN. Probably now about 15.

Senator MURKOWSKI. Did the maritime unions object to the construction of that pipeline?

Mr. GOLDSTEIN. No.

Senator MURKOWSKI. Any particular reason?

Mr. GOLDSTEIN. I think this was seen as a natural market force in operation. The pipeline was not created by the Federal Government. It was created by market forces. It was a more effective, efficient——

Senator MURKOWSKI. It was a more efficient means of moving the oil.

Mr. GOLDSTEIN. It was domestically.

Senator MURKOWSKI. And the same case cannot be made about moving Alaskan oil at a considerable distance to market in comparison to where a free market might move the same oil?

Mr. GOLDSTEIN. Well, I think I would take issue with that. You have on your map there an average distance of 6,500 miles. That has been reduced probably 300 or 400 miles by the pipelines.

Senator MURKOWSKI. Eighty miles.

Mr. GOLDSTEIN. No; the reduced distance that the ships travel is about 400 miles or so.

Senator MURKOWSKI. I see.

Mr. GOLDSTEIN. That is about average in the world oil trade. There is nothing special about that 6,000 miles. If you replace that oil with Persian Gulf oil, you are probably going to go 12,000 miles, 13,000.

Senator MURKOWSKI. Could you replace it with Mexican oil?

Mr. GOLDSTEIN. It would be much shorter, but the average is about 6,000. That is an average haul for a tanker.

Senator MURKOWSKI. Well, we are all generally aware of the distance. What is your perception—and I would throw this out to the panel—of the fields coming on line in California? Will this add to the excess oil on the west coast? What should we do, in your opinon, with that additional capacity?

Mr. COOPER. I have to pursue the logic of my own argument and say that it creates supply/demand balances that further create distance between the American market, which is more responsive to forces of supply and demand, and the international market, which is a politically defended price.

Senator MURKOWSKI. Where do you market it logically?

Mr. COOPER. I assume it will have to follow the flows from west to east, which exhibits essentially the flow we have now.

Senator MURKOWSKI. Aren't we going to potentially reach a time when we might have more going east than we can consume?

Mr. COOPER. If you are suggesting a date at which we are independent—that is, we no longer import oil—I suspect that any administration would, under the Export Administration Act, come in and say we are now in surplus and we ought to have the ability to export the surplus.

But given the fact that we import something on the order of a third of our oil, I believe the logic of the argument is that it creates those positive pressures, downward pressures, on price.

Senator MURKOWSKI. What we could do is refine it and ship it overseas, which is what we are doing now. I find that rather incongruous in the sense that we are running 600,000 or 700,000 barrels of refined product with no prohibition and we disallow.

Mr. Goldstein.

Mr. GOLDSTEIN. Mr. Chairman, I have not had a chance to look at the Department of Energy's oil export statistics recently, but the last time I looked I think I remember something like 200,000 barrels a day of those exports were defined as exports by the DOE, and they included Alaskan crude oil that is moving to St. Croix and Alaskan crude oil that is moving to Puerto Rico. It is about 200,000 of the 600,000.

Senator MURKOWSKI. I think it was a little less than that, but we can accurately find that figure. I think it is about 100,000 barrels.

Mr. GOLDSTEIN. 100,000 to the Virgin Islands, that is for sure, and how much to Puerto Rico, maybe 75,000 or 100,000. There is a small amount, has been for many years, of product moving to Russia. It is nothing extraordinary. I would call it a fabricated product.

It is really not gasoline. It is not fuel oil. It is petroleum coke. You can use it in production of aluminum and other very specialized purposes. I would not call it a petroleum product. It is really a fabricated product.

Senator MURKOWSKI. Would you oppose the export of the proposed California crude that is coming on line within the next couple of years, if that were exported in its crude form to outside the United States?

Mr. GOLDSTEIN. I think we would have to be consistent and say yes.

Senator MURKOWSKI. A statement was made yesterday in the testimony that the maritime industry is the major beneficiary of a continued export ban. I will just make the statement: I do not think we have to agree or disagree. But it has been referred to as a monopoly and in effect it is because the law says it has to be under the Jones Act, in the transportation of oil from certainly Alaska to the United States.

As a consequence, it has been referred to as the most expensive fleet in the world and basically the movement of that oil will take from the taxpayers and the oil companies over $5.7 billion over the next decade. It is indicated that of that $5.7 billion basically $3.3 billion goes to the maritime interests, which is in effect a net loss of $2.4 billion to the taxpayers, all things being equal.

Now we know all things are not equal, but one of the concerns is that if the oil ban is maintained and your ships get older we will need additional Jones Act tankers in the future to maintain this monopoly subsidy difference, which is significant.

I would like to hear any one of you address that, if your would.

Mr. COOPER. Let me start with the simple consumer economics and I will leave shipping to others who understand it better than I.

The benefit numbers in the sense of benefit numbers that we heard this morning——

Senator MURKOWSKI. This was yesterday.

Mr. COOPER. They are very similar numbers and they are based on projections about what is going to happen to windfall profits, but, even more importantly, they are based on projections about increases in production. We heard the 12-percent number.

I sure do hope that documentation of that computer model has elasticities, because the elasiticities you need to get a 12-percent increase in production and $10 billion in extra royalties, which has to come from somebody's pocket and comes from the oil, the numbers just do not add up. The numbers have been floating around for more than a year and I await that final definitive document which puts down the numbers and says here is the elasticity, here is the value of royalty gains and so forth, because there are just so many millions floating around in there that it is an industry that just does not behave and does not respond according to those parameters.

Mr. GOLDSTEIN. As you know, by training I am an economist. I have dealt over the past 20 years with various industrial companies. I have gotten away from theory, economic theory, but I think it is fair to say that the term "monopoly" has a very specific meaning. Monopoly is some one or a firm that controls the supply, and by controlling the supply controls price.

Well, that is about as far afield from the bulk shipping business as you can possibly have it. We have a market today that is in the worst depression in my memory. We have 50 of 100 ships in existence 18 months ago that are not operating any longer. If you happen to have the bad luck to be operating one of the still-active ships, you are losing about as much money as you would by laying up the ship.

There is no monopoly. Who would be the monopolist?

Senator MURKOWSKI. No, I am not going to argue the merits. I think we know what we are talking about. The terminology of a monopoly, as used by the chairman, was in the sense that there is no other shipping flag carrier. It is U.S. carrier, as dictated by the Jones Act law. So I would concede to you, Mr. Goldstein, that it was an incorrect enunciation and I do not think there is any question about that.

Let me ask what is the estimate of the number of vessels that will be out of the trade as a result of the Port and Tanker Safety Act, which I think goes into effect in 1986 on these ships?

Mr. GOLDSTEIN. Now as far as the subject you are interested in, which is crude oil, the act went into effect last month.

Senator MURKOWSKI. I see.

Mr. GOLDSTEIN. And many of the older ships had to make the decision, the owners of those ships had to make the decision whether to retrofit them at a very high capital cost or to forget about the crude oil trade. So the ships that have the equipment on board today are the ships that are carrying crude oil. If you do not have the equipment, you cannot under any circumstances carry Alaskan crude.

So as far as you are concerned, the Tanker Safety Act is in the past, not the future.

Senator MURKOWSKI. Well, I assume there were some ships that it was not in the economic interest of the owners to upgrade to meet the requirement and there may be some of those attached to this exhibit.

Mr. GOLDSTEIN. Some of the laid-up ships, yes.

Senator MURKOWSKI. So additional ships had to be acquired?

Mr. GOLDSTEIN. There has been some retrofitting of ships. There has been a decline in the requirements and there is enough surplus in the market. There are ships that do comply with the rules that are brandnew, fresh from the shipyard, that have not been chartered in the trade.

Senator MURKOWSKI. There is some discussion currently about some 15 tankers that were built with construction operating subsidies that are attempting to enter the Alaska trade now by paying that subsidy, and I am wondering if you basically feel that the market can assimilate that additional tonnage in view of the rather difficult economic conditions that you indicated exist in the current marketplace today.

Mr. GOLDSTEIN. Well, as I indicated, Mr. Chairman, there are about a million-plus tons laid up in addition to those that have been sold for scrap. There is an additional underutilization of ships, vessels waiting for cargoes being idled, sitting but not being laid up, probably another half million to a million. There may be as much as 2 million tons surplus today.

That proposed rule gratuitously add another close to 2 million tons to a market that is substantially, as I said, oversupplied.

Senator MURKOWSKI. Well, do you support CDS ships coming in, as proposed?

Mr. GOLDSTEIN. Over my dead body.

Senator MURKOWSKI. You object?

Mr. GOLDSTEIN. Yes.

Senator MURKOWSKI. I see. Do any of the rest of you support it?

Mr. MARLOWE. Mr. Chairman, it is not a subject in which the Coalition to Keep Alaska Oil has been involved, so as a coalition we have no involvement with that issue.

Senator MURKOWSKI. The reason I felt it was germane is that if these ships come in and haul Alaska oil they may displace other ships and something has to give.

Mr. GOLDSTEIN. You cannot put more toothpaste into a tube that is already overfilled.

Senator MURKOWSKI. Is it because of this desire to put it in more efficient vessels than exist? I assume that ultimately is what would happen. In other words, the CDS tankers that want to come in, these 15 vessels or so, would come in and displace less efficient vessels.

Mr. GOLDSTEIN. No. I think they would replace comparable vessels.

Senator MURKOWSKI. Comparable vessels. Does it become more competitive with more vessels in? I assume it would.

Mr. GOLDSTEIN. Well, you have to remember these are not ships that would be built. These are ships in existence. The foreign market is not very attractive in some cases. In other cases, the ships have long-term charters, are fully protected, are profitable, but there is a benefit in canceling those charter arrangements and substituting foreign flagships for the American vessels.

Senator MURKOWSKI. Well, what you are telling me, the conclusion I can come up with, I guess, is what do we do for you? Even with the subsidies, the Jones Act protection, the current flag fleet is obviously, according to your testimony, losing money. I do not know what more there is in the basket.

Mr. GOLDSTEIN. Mr. Chairman, we have gone through the cycles, shipping cycles. It is a volatile, highly competitive business that competes on the basis of price alone. We have been through the cycles every few years for decades. This is another cycle. It is a very painful one. We have had to deal with a measure of deregulation. You mentioned product exports. That was one of the problems that created the overtonnaging. We had the Panama pipeline create more overtonnaging.

Senator MURKOWSKI. It has been a long cycle because we have been on it since World War II.

Mr. GOLDSTEIN. That is not the case, sir.

Senator MURKOWSKI. Well, I am talking about this American tanker fleet. The majority of it is in this trade because the law dictated that it be in this trade.

Mr. GOLDSTEIN. Over the long run, it has been a successful fleet. It has been probably the only successful segment of the American merchant marine.

Senator MURKOWSKI. Well, that is because it is the only segment that is protected. Is that not correct?

Mr. GOLDSTEIN. I would not say that is true, sir.

Senator MURKOWSKI. Then I guess I have a hard time understanding why you would not say it is true, because if it is not protected it is a domestic carriage as opposed to free competition, which is what I assume you are separating those that are less profitable under our domestic——

Mr. GOLDSTEIN. The other sectors are the liner segment which competes in the international trade, more or less at conference rates, without price competition, with a substantial measure of Government cargo preference, military cargo, what have you, generally receives operating and construction subsidies. That fleet has been subject to tremendous shrinkage.

The domestic tanker fleet, largely because of the advent of Alaskan oil, has prospered generally until recently and has grown. The domestic tanker fleet constitutes 50 percent of the capacity of the American merchant marine today.

Senator MURKOWSKI. I think for the benefit of you gentlemen, since I had made this statement yesterday, I will repeat it again. I basically support the lifting of the export ban, but I am quite outspoken in that if it is lifted to any degree it will be lifted with my support only if it goes in U.S. tankers, because I think the U.S. shipbuilding industry and the owners, operators, and the unions entered into this trade in good faith under existing law, and that has to be protected.

But, by the same token, I have a hard time satisfying myself that the consumer is not paying, in this particular case, for not the inefficiency of the fleet but the realities associated with the significant distance that we are moving this commodity in comparison to where it could be marketed throughout the world, and the resulting lost benefits to not only the Federal Government but the consumers as well. That is why we are holding the hearing and discussing the issue.

And, as you have all pointed out, it has been something that has been around for a long time and is probably going to stimulate more and more debate as, in my opinion, surpluses continue on the west coast.

Mr. COOPER. Let me respond by offering a reflection. When I started to look at this thing, I looked at the 1981 papers that had been circulated. One of the most fascinating things was that not one of those papers ever said consumers were going to get a price break. In point of fact, every one of them said prices were going to go up—every one.

You heard the Department of Energy say that that is the case in the short term. Now in the long term I discovered these billions and billions of barrels and dollars coming out of the ground in Alaska, but as you start to look at it carefully you discover that you could not justify the price differences on the uniform Saudi price theory. So that while I have nothing to say about the maritime question, I do not agree on the consumer bearing the burden of those tankers.

Senator MURKOWSKI. Well, where do you think that $3.3 billion differential goes? It goes to the maritime interests. And the remaining difference of $2.4 billion is a net loss to the U.S. economy.

Mr. COOPER. What I think happens is that the downward pressure on price with respect to the world market is bigger, as it turns out, than the cost of shipping. I have estimated that the consumer loss is more than the transportation costs.

Senator MURKOWSKI. I have heard some statements here today—and you may have made it, Dr. Cooper—that Alaskan oil in effect is cheaper oil. And if Alaska oil is cheaper oil coming from the highest priced area of the world for development and having to amortize the largest construction project in the history of the free world at $8 billion and being handled as many times as it is, then we have got some haywire pricing in American oil.

Mr. COOPER. The haywire pricing is in the world system. It is cheaper than the world oil because the Alaskan oil is hanging closer to its costs of production. The others are up 15 times above the cost of their oil production.

Senator MURKOWSKI. I thought we were all tied to what the Saudies were charging.

Mr. COOPER. In general I said we split it. The Saudis have tried to run it up $12 to $15 and the Americans' downward pressures on price have given us back a couple or three dollars. The market clearing price of oil in a world in which oil was traded in a completely free market would not be $25 a barrel for Alaskan oil or $29 a barrel for Saudi oil. It would be down in, I believe, the $12 to $18 range, and even the most conservative economists have agreed that that is where the marginal cost of oil would be.

So what we have is two systems, one of which has managed to pull itself away from the international pricing mechanism. As a result, I believe that putting that oil into international trade will put the international price tag on it.

Senator MURKOWSKI. Well, we have two systems, too, in this country. We have one system that says one State shall not have the benefit of exporting its oil and the rest of them shall. I would like to just conclude my question by acknowledging the concern that you have, which is the development of the American merchant marine and the development of American jobs for sailors and for shipowners. From that standpoint, you recognize the real world that we live in as far as exporting raw materials from the United States to the Pacific rim countries where a significant proportion of the population of the world exists. As those populations grow they are going to require more and more consumer goods and they are going to need raw materials.

If you look at China, they have no wood fiber, a basic material used to make paper. They have more than one-fifth of the population of the world, a billion people, and they are going to need timber for wood fiber. Today they make their paper out of straw. How do you see our ability to compete and develop and build this merchant marine with this type of continued requirement that we ship in U.S. bottoms with U.S. crews as opposed to the realities that they can get the products from other parts of the world?

In my State we have 1.2 trillion tons of estimated coal reserves. The market is in the Pacific rim. They need the coal. But is it a trade preference agreement or do we determine if we are going to allow the development of coal, that every other ship has to be a U.S. ship to protect the interests of a selected industry? Unlike oil, there are a lot of places to go to get it.

Mr. MARLOWE. May I first respond, followed by Mr. Goldstein and perhaps Dr. Cooper as well? Our concern certainly goes far beyond the question of the maritime industry and the jobs involved.

As I recall the history of the particular provisions with regard to Alaskan oil, they were placed there first in the Trans-Alaska Pipeline Authorization Act when Congress intervened to expedite the construction of that act. And at that time the oil companies involved were very clear, as I recall my research on the issue a number of years ago, that their interest in having that particular route as a pipeline was that it got to the salt water a heck of a lot quicker than an inland pipeline would and, therefore, once the oil got into salt water they figured they could scoot it across the ocean and be able to do very nicely and far better in terms of their profit picture than they could domestically.

But the Congress said no, no, that is not the way we are going to do it. If we are going to intervene on this, the price that you are going to have to pay in return is to give a domestic preference for the use of that oil. Thus, I think that there is a historical reason for that particular provision in there, which goes specifically to the issue of the intervention made by Congress in the construction of the pipeline.

Senator MURKOWSKI. I am aware of the history. I would appreciate it if you would reflect on the question.

Mr. MARLOWE. I believe the issue that you spoke of goes to a variety of different products. You cannot treat an Alaskan oil in the same breath as I think you can treat coal, which exists in tremendous surplus in this country, and some of the other products.

Senator MURKOWSKI. So you write off coal?

Mr. MARLOWE. No, I am not writing off coal. I am saying you have to treat it differently in terms of how you develop export policies with regard to coal and with regard to oil.

Senator MURKOWSKI. Anybody else?

Mr. COOPER. Exporting coal, if it is in surplus, just as the products that we happen to export are.

Senator MURKOWSKI. We are going to have a surplus of oil on the west coast, too.

Mr. COOPER. But in the aggregate, oil is not in surplus. In aggregate, oil is in one-third deficit. For natural gas we are in self-sufficiency. So where there is a surplus, I would encourage the export of it. The more Btu's you can put out there, the better.

Senator MURKOWSKI. The cheapest way you can get it there, encourage the export the cheapest way.

Mr. COOPER. So far as I can tell, the export of coal would not be subject to the Jones Act.

Senator MURKOWSKI. Unless we make it subject to the Jones Act. Then we would not be competitive.

Mr. Goldstein?

Mr. GOLDSTEIN. We have been exporters of coal for almost 100 years. Last year about 100 million tons of coal left, virtually zero on American ships. We export over 100 million tons of grain, virtually zero on American ships, aside from——

Senator MURKOWSKI. But you cannot export oil in American ships.

Mr. GOLDSTEIN. And the reason, as alluded to by Mr. Marlowe, the reason we are so vehement about it is that we make commitments in good faith. We invested $4 billion. We want that investment protected.

Senator MURKOWSKI. I agree with that. That investment should be protected. That is why I made the statement again with regard to U.S. tankers, and I will certainly look forward to your submission on that particular thing.

Mr. GOLDSTEIN. I would submit, sir, that the compromise—and we appreciate your interest——

Senator MURKOWSKI. I do not consider it a compromise. I consider it a logical approach to what is a growing problem.

Mr. GOLDSTEIN. We appreciate your thoughts and the similar thoughts of Senator Stevens. It does not protect that investment. We are sorry, sir, it does not.

Senator MURKOWSKI. You and I have a little different economic analysis on what it takes to amortize an investment. I think if your investment is being utilized in the trade, it is being amortized as a consequence.

I think, gentlemen, we have gone on long enough. I do appreciate your contribution and the record that you have helped us establish. I would advise you that it will be open for 2 weeks and we will look forward to particularly that information about the U.S. tankers. Thank you again, gentlemen.

[The following information was subsequently received for the record:]

Overseas Shipholding Group, Inc.,
New York, N.Y., August 18, 1983.

Senator Frank H. Murkowski,
Committee on Foreign Relations,
Washington, D.C.

Dear Senator Murkowski: I have your letter of August 11, 1983 requesting validation of the employment impact of ANS exports of 200,000 b/d to Japan, with the requirement to use U.S. flag tankers built without government subsidy.

The estimated shipboard employment figures are generally accurate (the estimates for West Coast crew size are too low while those of the Gulf Coast are too high, changes that are probably offsetting). This estimate of course makes no provision for other employment effects, including the reduced need for vessel repair and lower management and technical staff.

Senator Murkowski, I believe that we cannot achieve the impossible. The tanker industry and its employees cannot be made whole by any export mechanism. If the industry were made whole, there would be no additional tax benefits to Alaska or the Federal Government. What is involved in the proposed export is merely a transfer of resources from the integrated ANS producers/shipowners and independent shipowners to the local and national tax collectors.

And, as I indicated in my testimony, there would probably be equal or greater tax benefits to the collectors if the export proposals were put to rest and all parties could negotiate longer term commitments.

The limited export proposal generates few economic benefits but does damage to the industry almost equal to that produced by unlimited exports and foreign flag tankers carriage. This is due to the fact that when a significant surplus of tonnage develops available charter rates drop to the level of variable costs (or below) of the marginal ship.

In other words, the owners of the marginal ship recover none of their capital costs much less profit. The newer the vessel, the tendency is to larger losses. Limited exports would depress the last remaining tanker trade still having a reasonable supply-demand balance—the Alaska/Pacific tanker trade. At that time, the entire domestic tanker fleet not on long-term charter would be unprofitable.

I hope these comments are of interest to you.

Sincerely,

Jack Goldstein.

Senator Murkowski. The last panel we have—and I do appreciate those of you who have been with us through the afternoon—from Washington, D.C., Mr. Marshall Hoyler, consultant; Mr. Daniel Yergin, Cambridge Energy Research Associates, Cambridge, Mass.; Mr. Andrew Palmer, Environmental Policy Center, Washington, D.C. I am told that Mr. Palmer is also with Congress Watch.

I would call the audience to order at this time and ask that the panelists proceed. We again have no specific order, although Mr. Hoyler, I guess you are first on my list. Whether that constitutes an agreement among you people, I do not know, but please decide and we look forward to your testimony.

STATEMENT OF MARSHALL HOYLER, CONSULTANT, WASHINGTON, D.C.

Mr. Hoyler. Thank you, Mr. Chairman.

I know you have heard a lot about the exports issue in the past few days.

Senator Murkowski. We certainly have.

Mr. Hoyler. I would like to make a couple of summary points from my written statement and submit that statement for the record.

Senator MURKOWSKI. Your entire statement will be inserted in the record.

Mr. HOYLER. I will in addition make a few comments on the other testimony that you have heard today. The first point I want to emphasize today is that exports serve the national interest. There are several reasons why this is true. I will simply assert them and stand ready to explain why my analysis came to these conclusions.

Permitting exports will do several things. It will reduce the Federal deficit by at least $10 billion or so over the life of the Alaskan oil fields, according to my calculations. It will thereby help us reduce unemployment. It will enhance our energy security for reasons that you have heard about earlier today. It can strengthen our national defense.

And, finally, contrary to the views of Mr. Cooper, permitting exports will benefit consumers. It will not benefit consumers by lower energy prices in the short run, but it will lead to lower energy prices in the long run. In the short run, exports will make increased credit available to consumers because of their effects on the Federal deficit.

The second major point that I want to emphasize today is that permitting exports is politically very tough for two reasons. One of these reasons involves appearances. Although exports will help us achieve all of the benefits that I have just described, it will appear to many voters and to many Members of Congress as though exports do just the opposite.

As you have just witnessed, some people in town argue that exports are not only apparently bad for the country but actually bad for the country. We have heard several examples of such arguments today. I would like to touch on a few of them in passing.

Mr. Marlowe just testified, for example, that section 7(d) does not ban exports but merely seeks to guarantee consumer benefits, an apparently plausible argument. The trouble is, this argument is in fact groundless because of a 3-month time limit which section 7(d) imposes for drops in the price of crude oil. It says you can lift the ban if the President finds that crude prices will drop within 3 months.

Well, permitting exports will reduce consumer prices by encouraging production, but it will not do so within 3 months. The lead times in Arctic oil production are on the order of 5 to 8 years, and so for a dramatic drop in consumer prices we have to expect a long leadtime.

So, you see, this apparently persuasive argument about section 7(d) is in fact groundless. The actual effect of section 7(d) is to prevent lower prices for consumers while pretending to protect consumers.

A second apparently plausible argument was provided by Mr. Goldstein. He said that we should ban exports because we need the ships that the export ban protects for purposes of national defense. Now Mr. Goldstein is, of course, entitled to his opinion on this issue, but it is worth noting that the Defense Department does not share his opinion. According to the Defense Department, only 26 of the 75 or so ships involved in the Alaskan oil trade are in fact militarily useful, and according to the Maritime Administration we could buy those ships for about $200 million.

A last example. Mr. Cooper said that export advocates assume dramatic supply responses to get large numbers for benefits. With respect to the numbers that are in my statement, that is just not true. My numbers are based on oil reserve estimates which assume that exports will not be permitted. By definition, therefore, my estimates of Federal revenue benefits, for example, do not factor in the impact of supply response.

So much for arguments that will be plausible to unsophisticated audiences. You have heard a number of others as well, which I would be happy to talk about. Let me turn now to the second reason why permitting exports is politically tough.

This reason involves who wins and who loses. Although the benefits of exports greatly exceed exports' costs, most of these benefits are diffuse. The one exception to this is the State of Alaska, which will receive some concentrated benefits in terms of additional tax revenues and employment opportunities. But most voters in the country will benefit from exports but will not know that these benefits result from the decision to lift the exports ban.

For example, if we lift the exports ban, we reduce the Federal deficit and, therefore, more Americans in the nonmaritime sectors can find jobs. But people who find jobs in some nonmaritime sector will not realize that the job that they found resulted from lifting the export ban.

So, in short, those who benefit from exports will be better off, but they will not know that exports are the reason why they are better off.

If we look at the other side of the coin, we see a sharp contrast. Those who benefit from the exports ban will feel the results of exports directly. Members of this group include highly paid individuals and corporations who are enriched by the exports ban. They are enriched, I might add, at the expense of the rest of us.

These people know full well that some of their number stand to lose their high incomes if exports are permitted. For example, the captain of a U.S.-flag ship, you may know, sir, makes $120,000 and works 6 months out of the year to earn that, or to receive that, anyway. He realizes that such well-paying jobs will be harder to find if we do not maintain the exports ban and thereby force additional oil into the protected Jones Act trade.

As a result of this prospect of losing their high incomes, opponents of exports are vocal and generous in protecting their interests. Let me give you an example of this. Maritime unions, as you know, oppose exports, and they gave about $2.2 million to congressional campaigns in 1982 alone. This works out to about $40 per member. To put this figure in perspective, it is worth noting the fact that the United Auto Workers gave about $1.30 per member to congressional campaigns over the same period.

I think the disparity in contribution reflects the disparity in the extent to which there is a very concentrated interest in preserving the exports ban.

I should add that unions are not the only parties enriched by the exports ban. Some large oil companies also enjoy handsome profits and shelter these profits from tax as a result of the ban. These companies realize that the maritime industry tends to be favored in policymaking on the Hill. They therefore pass their profits from the wellhead where they would be subject to State and Federal taxes down into their shipping operations, where they are subject to a much lower tax rate and, in some cases, can shelter their taxes altogether.

My main point here is clear. Export opponents have a concentrated interest in maintaining the ban and they behave accordingly in national politics. Those who would benefit from exports, that is, the rest of us, do not have a similarly concentrated interest and this has obvious consequences for political outcomes.

Let me summarize my remarks. My first point, for the reasons that I mentioned, is that exports strongly serve the national interest. My second point is that permitting the exports is political tough, first because of appearances, because most voters do not know the facts, and second because of the vocal and generous opposition of highly paid beneficiaries of the exports ban. These opponents seek to obfuscate these facts at every turn.

For these reasons, export advocates face a formidable task of public education and political persuasion.

Thank you, Mr. Chairman. I would be happy to answer your questions.

[Mr. Hoyler's prepared statement follows:]

PREPARED STATEMENT OF MARSHALL HOYLER

Thank you for inviting me to speak here today. As you know, the exports issue is complicated. I plan to discuss it in some detail, so I'd like to start by summarizing my argument.

FOUR KEY POINTS ABOUT EXPORTS

(1) Exports are in the national interest. Exports will help our country in several ways: they will reduce the Federal deficit and help create new jobs; they will enhance our energy security and can strengthen our national security; they will help reduce energy prices (though not in the short run); they will improve our relations with our Far Eastern allies and trading partners.

(2) Permitting exports is politically tough, for two reasons. One involves appearances. Although exports will help us achieve all the benefits just mentioned, it will appear to many voters and many Members of Congress as though exports do just the opposite. The second reason involves the incidence of costs and benefits. Although exports' benefits greatly exceed exports' costs; most of these benefits are diffuse. (The only exception is exports' benefits for Alaska.) Thus, most of the voters who enjoy these benefits will not know that these benefits resulted from exports. By contrast, exports' costs are concentrated. These costs will be felt by a handful of highly paid individuals and wealthy corporations who are enriched by the exports ban.[1] Members of this group know full well that some of their number stand to lose

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[1] Corporations benefiting from the exports ban include oil firms like ARCO and Sun. These firms can earn handsome profits in their shipping operations. (For example, ARCO reported tanker rates of $1.00 to $1.10/barrel for the Valdez-Los Angeles trip in 1981, and stated that $0.50/barrel of this was profit before tax.) However, these profits are only the beginning of the story. By charging themselves the protected tanker trade's relatively high rates, integrated oil firms that both produce and ship Alaskan crude can reduce their "netback" at the wellhead, and thus reduce their exposure to Alaska state taxes and the windfall profits tax. In addition, Internal Revenue Service Ruling 75-483 has in the past permitted corporations to prorate their ships' earnings as "foreign source" income, for the time these vessels spent beyond the three mile limit. This "foreign" income (earned by U.S. ships in the domestic trades from which foreign ships are *excluded* by law) can be offset by foreign tax credits. Thus, big corporations subject to foreign tax have in the past been able to further shelter the profits earned as a result of the exports ban.

Continued

their high incomes if exports are permitted. As a result, they are vocal and generous in protecting their interests.[2]

(3) Advocates can make strong arguments for exports, but must be careful not to claim too much. Some proponents of exports have hurt its prospects by overstating their case. This is especially true of the arguments concerning exports' consequences for consumer prices and the U.S. balance of trade. (Exports will help both, but not immediately. And other benefits are much larger, as I show below.)

Recent events give export advocates the opportunity to try new legislative strategies to lift the ban. Since the Supreme Court has outlawed the "legislative veto," Congress may have to reconsider section 7(d) of the Exports Administration Act sometime soon. Advocates can take advantage of this development by proposing new findings for the President to make before permitting exports. Specifically, why not make exports contingent on Presidential findings that lifting the ban will result in reductions in the deficit and in unemployment, a stronger national defense, enhanced energy security, and consumer benefits? Even if not enacted, such a proposal should help educate the public and the Congress about the real issues at stake in the exports controversy.

These four points state my argument in a nutshell. I expand below on why exports serve the national interest, and on a new strategy export advocates might pursue.

EXPORTS MAKE THE U.S. ECONOMY MORE EFFICIENT EVEN IF ALL OIL GOES ON U.S. SHIPS

Permitting exports will help us achieve all the benefits mentioned above. The key fact in each case is that permitting exports reduces the costs of carrying crude to market—even if every drop of exported oil is transported by a U.S. flag ship.

Here's how permitting exports reduces the cost of taking oil to market. Right now, roughly half of Alaskan production is not consumed on the West Coast. Since exports are banned, 850,000 barrels per day (B/D) must be shipped to the U.S. Gulf for about $4/barrel. If exports were permitted foreign flag vessels could transport Alaskan oil to Far Eastern refiners for roughly $0.60/barrel. The producer would receive about $2.90/barrel (not $3.40 [3]) more at the wellhead. U.S. flag ships could carry Alaskan crude to the Far East for roughly $0.90/barrel. In this case, therefore, the producer would receive about $2.60 more, per barrel.

EXPORTS REDUCE THE DEFICIT

Let's look at how exports will affect the Federal deficit.[4] Some people say that lifting the ban will lead to Federal revenue losses through defaults on Federally guaranteed shipbuilding loans, and through loss of tax revenues from shipowners and merchant seamen. And they're right—we should expect one-time losses perhaps as high as $800 million from one source and $164 million from the other, over 2 or 3 years.[5] However, these losses are dwarfed by a minimum of $10 billion or more in

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Individuals benefiting from the exports ban include highly paid U.S. merchant sailors. To see this, consider the wages paid to merchant seamen who oppose exports. According to the Transportation Department, these wages are three times the size of those paid seamen from developed countries. DOT says that the second mate on a U.S. flag ship makes $60,550 for 6 months work, the master makes $119,000 for 6 months' work, and so on.

[2] If permitting exports leads seamen to lose their jobs, they might well not earn similarly handsome salaries in other lines of work. This fact may explain the generosity of seamen's unions in national politics. According to Government Research Corporation, "while the Marine Engineers, National Maritime Union and Seafarers have a membership in the 50,000 range, their political contributions have been closer to unions with memberships over one million."

[3] Producers would not receive $3.40 ($4—$0.60) more, but rather about $2.90 more, for each barrel shipped to the Far East instead of the U.S. gulf coast. This $0.50 difference follows from the fact that a Japanese or Korean refiner would only be willing to pay the quality-adjusted Persian Gulf price plus $1 while a gulf coast refiner would be willing to pay the quality-adjusted Persian Gulf price plus $1.50, for that same barrel. What refiners in each location would willingly pay depends in turn on transportation costs from the Persian Gulf (where the world price is set) to these markets: it costs $1.50 to ship a barrel of oil from the Persian Gulf to the U.S. Gulf Coast, but only $1/barrel for the Persian Gulf-Far East trip.

[4] Revenue calculations are complicated and laborious. My paper "The Politics and Economics of Alaskan Exports" provides details on the sources of these estimates. It will be published jointly by The Wilson Center and Georgetown's Center for Strategic and International Studies in "U.S. Japan Energy Relations: Towards Cooperation or Conflict," Westview Press. Accordingly, I make only general remarks about my estimates' sources in these endnotes.

[5] The title XI loan loss estimate is based on a $600 million estimate that the Maritime Administration provided the 1981 Cabinet Council Working Group studying the exports issue. The revenue loss estimate is based on ARCO shipping rate data.

increased Federal revenues—from the corporate income tax and the windfall profits tax, from lease sale revenues on the Outer Continental Shelf [OCS], and from royalties on OCS oil that we would earn over the years, by permitting exports.[6]

The bulk of these benefits will come from new Alaskan oil production. If 850,000 B/D of exports started tomorrow and ran for 1 year, however, we should expect about $640 million in increased Federal revenues during that year. About $0.62 of every dollar added to the North Slope wellhead price is captured by the windfall profit tax and corporate income tax, for $560 million more oil sector revenues in 1 year. (The Alaskan state treasury gets another $0.26, leaving roughly $0.12 for the producer.) In addition, Department of Interior planning factors suggest that we should anticipate something over $80 million in higher OCS lease sale bids in fiscal year 1984 alone.

If all revenue pluses and minuses occurred immediately, therefore, Federal maritime sector revenue losses would roughly balance Federal oil sector revenue gains, for 1 year. After that, permitting exports would produce billions more in net tax revenues, with no further maritime sector losses. However, most observers do not expect such rapid adjustment.[7] Instead, the adjustment is likely to take 2 or 3 years, and Federal revenues are likely to show net increases over this period.

EXPORTS PERMIT US TO GET THE TANKERS WE NEED FOR DEFENSE AT LOWER COST

Let's look at the issue of tankers we need in war. Export opponents argue that permitting exports will put some ships out of business—and they are right. But maintaining the ban forces the U.S. economy to pay for some 75 ships—and the Defense Department is only interested in the 26 ships that can meet DOD's shallow draft requirements and carry oil products (e.g., aviation gas and diesel fuel). It's not clear that lifting the exports ban would force all 26 of these ships out of business. But even if it did, the Maritime Administration says we could buy them for $200 million. I'm sure most Americans would favor providing the ships we need for defense; but they would want to buy a dollar's worth of ships for every dollar they pay. Banning exports to provide ships means we pay more than $10 for every dollar's worth of ships we buy.

EXPORTS WILL ENHANCE OUR ENERGY SECURITY

Export opponents will argue that we may face another oil supply disruption like 1973 and 1979—and they are right. But banning exports will not prevent the sharp jump in world prices that occurs in such a disruption.

Because of our energy vulnerability, the U.S. Government should implement policies to reduce our vulnerability to supply disruptions overseas. For example, we should encourage additional oil production in politically secure regions like Alaska.[8] Permitting exports would do exactly that, and (over time) increase our energy security.

This argument is worth a little more attention. Unless they understand this point, many well-intentioned Americans are likely to believe, mistakenly, that exports will reduce our energy security.

Permitting exports cannot reduce our energy security. Our country will remain vulnerable to supply disruptions overseas whether or not we permit exports. We will remain vulnerable because we are part of one world oil market. The price we pay for oil is set on that market.[9] When oil supplies on the world market are suddenly disrupted, the price of oil goes up everywhere.

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[6] The $10 billion revenue increase is stated in constant dollars, and is *not* discounted to reflect present value. It assumes that producers will recover at least 16.3 billion additional barrels of crude over the life of Alaska's fields, and that half of this volume would be shipped to the U.S. gulf coast if exports remain banned. (The 16.3 billion barrel figure does not assume a "supply response" as a result of higher wellhead prices due to exports. It sums a 8.5 billion proven onshore reserves figure and a 7.8 billion Interior Department expected OCS reserves figure. Interior Department analysts assumed that exports would remain banned in computing the 7.8 billion figure.)

[7] Here are some reasons why adjustments will take a few years. In some ways, major Alaskan producers have paid for shipping oil to the U.S. gulf coast whether they do so or not. (For example, some firms have made throughput guarantees for the Panama pipeline and have either bought tankers outright or hired them on "life-of-the-vessel" charters.) Consequently, they may choose to "go slow" on exports, at least initially. In addition, potential Alaskan exporters and their Far East customers may conduct negotiations at a leisurely pace, with both sides seeking maximum advantage and not wishing to appear too eager. Finally, some Far East buyers may have to alter their refinery configuations before we see bids for all 850,000 B/D of Alaskan oil.

[8] For a discussion of "oil supply proliferation" (which generally refers to additional production in less developed countries) see Chapter 12 of "Energy Vulnerability," James Plummer, Ed., Ballinger Publishing Co., 1982.

To see why exports won't make us less vulnerable to disruptions, imagine that political events overseas suddenly cause supply cutbacks so severe that the world price jumps from, say, $30/barrel to $50/barrel. (It could be far higher, of course, which is why Congress wisely continues to push the Administration to build a much larger Strategic Petroleum Reserve.) At these prices Americans will demand less oil, and firms all over the world will produce more. But these adjustments take time, and meanwhile Americans suffer a lower standard of living—higher gas prices, more unemployment, and so on. Now, would things be any better if we didn't allow exports? They would not.

To see why, imagine that exports continued to be banned before the disruption, and that part of the Far East's oil requirement is therefore met (as in fact occurs today) by Mexican oil at $30/barrel. In this scenario, all Alaskan production is sold to U.S. buyers for the same world price. (Alaskan producers do not receive a world market "netback" for these sales, however, since they have to ship it to the Gulf Coast for $4 to $4.50/barrel rather than $0.60 or so, to Far Eastern ports.) In a disruption, Far Eastern refiners would pay $20 more for Mexican oil and U.S. refiners would pay $20 more for Alaskan oil. (Mexicans would receive a world market netback, of course, disruption or no disruption. If they could get more from some other nation, they would sell it to that nation instead.)

Now let's see how things change if Alaska is allowed to export oil to the Far East. In this example, Far Eastern refiners stop buying Mexican oil and buy Alaskan oil instead. Gulf coast refiners choose not to buy Alaskan oil (otherwise they'd outbid Far Eastern refiners) and buy Mexican oil instead. In nondisrupted markets, everybody pays the world price of $30. Americans get all the oil they want at the world price; the only difference is, some of it comes out of the ground in Mexico, not Alaska. Now imagine a disruption hits. The world price shoots to $50/barrel. Far Eastern refiners pay $20 more for each barrel of Alaskan oil they consume; Americans pay $20 more for each barrel of Alaskan oil they consume. And both countries pay $20 more for every barrel they consume from everywhere else, too. Nobody likes paying more, but export restrictions would not allow us to pay less.

This simple example illustrates the point that exports do not reduce our energy security. For "Mexico", one could easily substitute the name of any other foreign producer and tell the same story.

Permitting exports will enhance our energy security. Permitting exports encourages more oil exploration and production. Thus, permitting exports increases the amount of oil produced in politically secure parts of the world. As more oil is produced in such regions, OPEC's power is reduced. In addition, the world oil price will jump less than it otherwise would, in the event of a future supply disruption.

Even if we permit exports, our country will remain vulnerable to supply disruption overseas. This is why we need to build the strategic petroleum reserve at a much faster rate than the Reagan administration currently proposes. Nevertheless, permitting exports will help.

EXPORTS WILL HELP AMERICAN CONSUMERS

Permitting exports will lead to lower energy prices, but not in the short run.

We have already shown that permitting exports will decrease the cost of shipping crude to market, and thus encourage production. Once oil reaches the world market that would not otherwise have done so, the world price will be lower than otherwise. (It does not matter if additional oil reaches the world market by being sold to a foreign refiner. The world price is set by world supply and demand, and Americans will see a lower world price even if they do not directly consume that increment of additional production.) However, this process will take a long time, because of the 5- to 8-year leadtime involved in Arctic oil production.

This leadtime is very important. Current law allows exports if they will result in lower consumer prices. However, this law (section 7(d) of the Export Administration Act) stipulates that these lower prices must appear within three months. By setting this unrealistic condition, section 7(d) effectively prohibits exports and denies their benefits to consumers. More importantly, it prevents long run benefits for consumers while appearing to provide consumer protection.

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[9] What's more, the price we pay would be set on the world market even if we were "energy independent," and domestic sources provided every barrel we consumed. Things would only be different if we banned imports entirely. Nobody wants to do that because it would create a depression here at home.

Despite exports' benefits in terms of lower world oil prices in the long run and increased credit availability in the short run, permitting exports will probably cause a rise in west coast crude prices, in the short run. In addition, it may cause some west coast consumers to pay the world price for the oil they use (which other American consumers do every day, of course), instead of prices discounted below world market levels. These effects are not certain, but they have caused some consumer groups to argue, erroneously, that permitting exports will represent a net loss to consumers.[10]

EXPORTS WILL HELP CONSUMERS GET CREDIT

A second problem with section 7(d) is that it defines consumer benefits narrowly. Specifically, it does not recognize how exports' effects in reducing the deficit will help consumers secure credit. However, exports will have this effect almost immediately. The current deficit is so large that $600 million annually might well not cause a perceptible decline in interest rates. Nevertheless, when permitting exports increases Federal revenues by $600 million, the Government will have to borrow $600 million less to cover the deficit. Even if rates do not fall perceptibly, consumers and businesses will have more private capital available to borrow for purchases and investment. If only one third of this amount wound up in consumers' hands, thousands of families presently unable to buy houses or cars might be able to do so.

EXPORTS WILL REDUCE UNEMPLOYMENT

Export opponents claim, correctly, that permitting exports will lead some merchant sailors to lose their jobs. Their figures overstate the extent of job loss tht will actually occur, however. More importantly, they imply that exports will therefore increase unemployment. This contention is unfounded; exports will probably cause a net decrease in U.S. unemployment. We expand on these observations below.

Export opponents' overstate job losses in three ways. First, the usual 3,000 to 3,300 merchant sailor job loss estimate does not make adjustment for the fact that merchant sailors only work 6 months a year. Loss of 3,000 sailors' jobs means loss of 1,500 full time jobs. Second, the 20,000 job loss estimate cited by Congressman McKinney in this year's House hearings is based on an arithmetic error which exaggerates losses twofold.[11] Third, export opponents' most recent job loss estimate of 7,380 is a gross job estimate, not a net jobs figure; the relevant number for estimating national employment consequences is *net* employment effects.[12]

It is impossible to predict precisely how many more jobs will be created as a result of exports. This is because it is impossible to predict which sectors of the economy will receive the income transferred from the maritime sector. If all the income was transferred to the oil producing sector, the national input-output table export opponents cite would indeed predict an increase in unemployment. However, enormous revenues are being transferred to the Alaskan and Federal treasuries instead. These funds will show up in the economy through reduced taxes and deficits or increased spending. Few sectors enjoy wage rates as high as the maritime industry; accordingly, it is reasonable to expect increased employment as a result of permitting exports.

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[10] See Hoyler, "The Politics and Economics of Alaskan Exports" for more detailed discussion of the West Coast discount, and the impact of exports on consumer prices generally.

[11] See Congressman McKinney's testimony before the House Subcommittee on International Economic Policy and Trade, 12 April 1983. McKinney's 20,000 jobs estimate is apparently based on the following passage from the 1981 Robert Nathan Study "*The Economic and Financial Consequences of Exporting Alaskan North Slope Crude Oil.*" "Using the national input-output table, the relationship between output in a final goods sector and employment in all sectors providing intermediary inputs to that sector can be identified. For the water transportation sector, approximately 30.2 jobs in intermediary sectors are required for every $2.26 million of final product. Using this figure to compute loss employment as a result of a fall in output of $681 million, we find an additional employment effect of 20,500." (p. 66) A few strokes on a calculator shows that, given Nathan's data and methodology, the jobs loss estimate should be 9,100, not 20,500. ($681 million ÷ $2.26 million equals 301.327; 30.2 jobs × 301.327 = 9,100.) Hence our observation that McKinney's 20,000 figure represents a twofold exaggeration.

[12] The 7,380 figure comes from Robert Nathan Associates' May 1983 update of their October 1981 study. (p. 69) In the update, Nathan recognizes that 7,380 lost jobs would be offset by jobs created elsewhere. However, he makes no calculations about these effects.

EXPORTS WILL NOT HELP THE JAPANESE AT AMERICANS' EXPENSE

Many well-intentioned Americans believe that exports will confer benefits on our Far Eastern trading partners, and reduce benefits for Americans. This belief is intuitively plausible, but mistaken.

To make maximum profits, U.S. oil producers will sell oil to foreign refiners at the same price (after adjusting for crude quality differences) that those refiners would have to pay for a barrel of crude from somewhere else. Thus, virtually all quantifiable economic benefits will flow to the United States. The only exception to this principle is the lower world oil price we should see several years after exports are permitted. Consumers all over the world will benefit from this development.

This is not to say that the Japanese (or Koreans or whoever) will not benefit from consuming U.S. oil. Of course they will benefit, or they would not buy it. But their benefits will not come at our expense. In short, we're not going to be doing them any favors. Instead, both parties will gain from trade.

EXPORT ADVOCATES SHOULD TRY NEW STRATEGIES TO LIFT THE BAN

Since 1979, Section 7(d) of the Exports Administration Act has been the strongest provision of law restricting Alaskan exports. This section posed two hurdles to exports. First, it incorporated a legislative veto requiring both Houses of Congress to approve any Presidential export authorization. Second, it banned exports unless the President made findings that were practically impossible to establish.

The Supreme Court's decision in *Immigration and Naturalization Service* v. *Chadha* has invalidated legislative vetoes, and may have invalidated other portions of section 7(d) as well. (Lawyers will have to decide how much of the act still stands; the issue has to do with what parts of the law are "severable" from others.)

In the meantime, export advocates should consider taking a new legislative tack. They could do so by proposing an amendment to the Exports Administration Act. This amendment would not necessarily repeal the criteria established by section 7(d). Instead, it would establish an alternate set of criteria. It would empower the President to permit exports if he made either the findings called for by the alternate criteria, or those laid out by section 7(d). [This provision would enable legislators to vote for the alternate criteria even if they were already pledged to support section 7(d).]

The amendment would require the President to find that exports would result in national benefits on every dimension for which export opponents have claimed costs. It would set dramatic and specific criteria for each of these dimensions. For example, the amendment could require the President to find that permitting exports would:

Decrease the Federal deficit by at least, say, $8 billion over the life of Alaska's oil fields;

Enhance energy security by encouraging production of at least 100,000 additional barrels/day;

Benefit consumers through a lower world price leading to, say, savings of at least $5 billion through lower petroleum product prices over the life of Alaska's oil fields;

Reduce unemployment nationwide by, say, 5,000 jobs after 3 years of exports;

Strengthen national defense through Presidential commitment to purchase all militarily useful tankers protected by the exports ban, and some additional militarily useful tankers as well.

Even if not enacted, an amendment along the lines just suggested could help educate the Congress and the public about the real issues at stake in the exports controversy. In addition, it might garner enough support to interest export opponents in a compromise.

The proposed amendment could have the effects just noted for two reasons. First, it establishes a much more detailed and demanding set of findings for the President to make before permitting exports. Export opponents will nevertheless have to defeat this amendment. This puts export advocates in the position to ask "What are you afraid of? You opposed exports on grounds that it would increase the deficit, remove ships we need for defense, reduce our energy security, hurt our consumers, and increase unemployment. If any of those claims are true, the President cannot permit exports under the terms of this amendment. So why not pass it?"

Second, the proposed amendment might help export advocates bring fence-sitting legislators to their side. It would give such legislators an easy argument to make their constituents: "The entire Congress voted for exports. The only argument was over findings the President would have to make before exports were permitted. I voted for consumer benefits, a stronger defense, enhanced energy security, and reductions in unemployment and in the Federal deficit. I voted for the President to prove that exports would bring these benefits before one drop was exported."

CONCLUSION

The Supreme Court's *Chadha* decision has invalidated section 7(d)'s legislative veto provision, and may have invalidated other portions of the act, as well. If so, Congress may have to reconsider the export issue soon. This time export advocates should consider more imaginative strategies to get the ban lifted. Analysis shows that permitting exports confers benefits in terms of economic efficiency, energy security, national defense, deficit reductions, and lower energy prices. History shows that it can easily be made to appear otherwise by special interests seeking to preserve their privileges. export advocates therefore face a formidable challenge of public education and political persuasion.

Senator **MURKOWSKI**. Thank you very much. Your written testimony will be included in the record. I do appreciate your giving us a brief outline of your testimony.

I am going to proceed with the next witness and refrain from questions until the panel has made its presentation. Daniel Yergin, are you next on this—Cambridge Energy Research Associates, Cambridge, Mass.

We welcome you to the hearing. Please proceed.

STATEMENT OF DANIEL YERGIN, CAMBRIDGE ENERGY RESEARCH ASSOCIATES, CAMBRIDGE, MASS.

Mr. **YERGIN**. Thank you, Mr. Chairman. For the last several years I have been researching domestic and international energy issues, the conclusions of which were in books familiar to some people—"Energy Future" and "Global Insecurity."

It is from the perspective of those two books that I will be speaking today. I am going to summarize my testimony and would ask that it be submitted for the record.

Senator **MURKOWSKI**. It will be included.

Mr. **YERGIN**. I would also like to submit for the record my article from yesterday's New York Times on why we are probably going to see continued volatility in oil prices for the rest of this decade.

Senator **MURKOWSKI**. It will be submitted.

[The article referred to follows:]

[From the New York Times, July 19, 1983]

OIL PRICES: TURMOIL IS COMING

(By Daniel Yergin [1])

Falling demand for oil, the weakening of the Organization of Petroleum Exporting Countries and the changing role of international oil companies threaten to make oil a commodity like any other—any other raw material on the international market. The result may be great turbulence in the world oil industry and a painful process of adjustment no less momentous than the one that occurred after 1973.

What would it mean to become merely another commodity? Above all, that the price of oil would continually bounce up and down with the seasons, the political news, the state of the international economy and short-term expectations for price.

Like many people, Sheik Ahmed Zaki Yamani, Oil Minister of Saudi Arabia, strongly resists the notion that this could happen: "Oil is not an ordinary commodity like tea or coffee. It is a strategic commodity. Oil is too important a commodity to be left to the vagaries of the spot or futures market or any other type of speculative endeavor."

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[1] Daniel Yergin, president of Cambridge Energy Research Associates, is co-author of "Energy Future: Report of the Energy Project at the Harvard Business School" and chief author of "Global Insecurity: A Strategy for Energy and Economic Renewal."

The possibility of such volatile price fluctuations has created enormous concern in OPEC, raising questions about its very survival. But the prospect also troubles many people in the oil-importing countries. That is why so many different groups in the industrial world-bankers, coal companies, governments, people in the conservation and solar businesses—are supporting price stabilization, be it at $34 or $29 or $25 a barrel.

What brought the oil market to this pass? It is now obvious, even to the OPEC countries, that they made a serious error in pushing the price of oil too high, especially in 1979-80. Why? In part at least because the increase stimulated large-scale conservation and switching to other fuels. Oil use in the United States alone fell 13 percent between 1973 and 1982—despite substantial economic growth.

How much of this decline is the result of permanent change in patterns of purchasing and use, and how much is due to recession? Demand may pick up as the economy recovers, but if it does not, oil exporters and oil companies will find themselves fighting over a shrinking market. And if demand remains far below available supply, it will become more and more difficult for exporters to work together to stabilize the price.

Can anyone else step in to stabilize it? The obvious answer is the international oil companies, which held prices stable until 1973. But they are unable today to resume that role. Why not? Until the first price rise, the world's oil production was what economists called "integrated": the "Seven Sisters," as the leading Western oil companies are called, did everything from find and produce oil under distant sands to actually pump it into your gas tank. Today, that system has fallen apart as nationalistic oil-producing countries have unceremoniously driven out most international companies.

As a result, increasingly the major companies are becoming merely traders: They shop around for the best price and feel little loyalty to any exporting countries. Everyone prospers as long as demand is high. But let demand fall while supply grows, and the oil-exporting countries are uncertain that they can count on the Seven Sisters to market all the oil they produce. That is why OPEC production has fallen by half since 1979—and, in part, why oil is becoming more and more like any other commodity. What will the consequences be? In the last decade, change in the world oil market has had far-reaching consequences for everything from international debt to overall economic growth and the distribution of international political power. The emergence of oil as an ordinary commodity may be no less dramatic in its effect. Certainly, significant fluctuations in the price of what continues to be the world's most basic resource will be reflected in overall economic performance. Another consequence will be reduced investment in energy. Long-term supplies depend on long-term investment. But increasing uncertainty about price will mean less willingness to assume the long-term risks. Development of frontier oil and gas will suffer greatly, as will investment in alternative sources of energy. We would start to notice the effect on available energy in the late 1980's and early 1990's. Ironically, in such circumstances, the industrial world would once again rely increasingly on the huge and cheap oil reserves of a few countries in the Middle East. This, in itself, could bring us back to 1973 and end oil's new career as just another commodity.

Mr. YERGIN. If we were to ask the question of what were the four most important energy developments in the United States in the last 10 years, one would be natural gas decontrol, three of them would concern oil automobile fuel efficiency standards, decontrol, and the go-ahead on the development of Alaskan oil.

Clearly, Alaskan oil played a very important role in helping to prevent a bad oil shock in 1979 and 1980 from becoming much worse. Alaskan oil is a very significant national asset, and the question that underlies this hearing is how to manage that asset to maximize its benefits.

As we have heard, there are two schools. One believes that it is inherently better for Alaskan oil to be reserved for exclusive use in the United States. This is a view that tends to see the United States as insulated from the world market. The other, which favors the lifting of the ban on exports, see the United States as part of the world market.

The positions are rather strongly etched. I am going to take somewhat of a middle of the road position. That is, I do believe that the proponents of the ban do raise some legitimate and important issues that need to be met and clarified.

One, of course, is that question that you were devoting a good deal of your questioning to, the question of domestic tanker capability. Second, the proponents of the ban argue that a very substantial investment has been made on the basis of rules laid down by Congress a decade ago and that it is unfair to change those rules and penalize those who have played by the rules. I think there is much merit in that argument and it provides a reason not to totally change the rules but rather to modify them.

At the same time, I do think that there are strong arguments in favor of modification, which I shall discuss in the context of the world oil market, national security, and United States-Japan relations. Once upon a time—which means until the early 1970's—there were two world oil markets outside the Communist world—the United States and something that was called the rest of the free world.

Now there is only one, an integrated world oil market, and we are definitely part of it. If there is a splash in one part of the puddle, it affects the price of all the drops. If prices go up as a result of a disruption, the prices of all oil will go up, including Alaskan oil, notwithstanding on whose roads and highways that oil is burned.

In other words, restricting Alaskan oil to U.S. destinations does not insulate the United States from the price effects, which have been the real effects so far of oil insecurity. Now, some argue that to export this oil will increase our imports of oil. Well, that is true insofar as gross imports are concerned, but our net import position, of course, will be exactly the same.

Moreover, the key question, since it is an integrated world oil market, is not the amount of oil imported into the United States by itself but, rather, the amount imported into the entire OECD, into the entire Western world, and that will remain virtually the same.

Finally, some have been arguing that exports would be replaced by imports from the Middle East. I myself cannot see why this is self-evident. I have been in Venezuela twice in recent months doing research on their investment choices in their oil industry, and what is clear is that the Venezuelans desire greater access to our market and they have spent substantial sums to upgrade their refineries and change their product mix to meet our market needs.

In sum, the benefit of insulation that the United States is supposed to gain from a ban are difficult to find in the context of the world oil market. This, then, brings us to the question of national security and Alaskan oil.

The proponents of the ban make a national security argument that I find of considerable significance and, as I said, in what you were obviously discussing before, and that is how to maintain a domestic tanker capacity, what the needs would be, and it does seem, given the question marks here, that this question deserves much further examination, not only in light of this issue but in light of the lessons of the Falklands war and possible U.S. military obligations and needs in various parts of the world.

It is also important, obviously, to ask what effect 200-300,000 barrels a day of exports would have on that capability. But several other arguments are also offered under the heading of national security, and I must say for myself I have much more difficulty following them.

Some argue that the export of 200,000 or 300,000 barrels a day threatens the supplies to our national defense establishment. Perhaps that is the case, but nothing I have read or heard explains how the export of perhaps 2 percent of domestic U.S. oil production is going to cripple the Pentagon.

The subject gets murkier as we proceed. Do exports threaten national security in something that we might call normal times? Well, by definition, they do not, so the real question of security has to do with what happens during times of volatility and disruption. I agree with what a number of proponents of the ban say, that we should not be fooled by the current oil glut, but I believe that the turbulence is likely to continue in the world oil market, but I do not think that the export ban protects us against that turbulence.

This is what I have learned from the studies I have done on the world oil market. Both the events of 1973-74 and 1979-80 demonstrated that the world oil market is one market, and that competitive bidding for supplies, panic buying, drives up the price. It is those price effects, as least so far, that have been so devastating in terms of inflation, lost economic growth, and unemployment.

We could pursue an isolationist path on oil, but that would work against our interests for two reasons. First, if the prices are pushed up by others, we will end up paying the same prices anyway, so refusing to export any Alaskan oil as a way to protect us against the world market does not do much good.

Second, as pointed out earlier today, we are party to the international energy program by treaty, which goes back to 1974 and which provides for a voluntary or mandatory allocation system among the oil consumers if the shortfall should exceed 7 percent. Alaskan barrels will be counted with all the other barrels in making the allocations.

We became part of that system because we wisely recognized that what counts is not just what the United States but what the entire group of industrial consumers does.

Thus, the arguments about the specific destination of Alaskan oil during a crisis does not seem particularly relevant to how things would actually work. Moreover, it seems to me that it is in our security interest to see that Japan be a diversified importer. For one thing, Japan runs neck and neck with the United States for the battle of the world's champion oil importer. The Japanese panic in 1979 was one of the main forces that drove up prices.

If some of their supplies are coming from the United States, I think they will have more security, we would have more influence, and that would serve our interest during a crisis.

I am one who believes that close relations with both Japan and Western Europe are fundamental to our national security. Now this, of course, brings us to what is a major issue in this whole discussion, United States-Japanese relations, particularly United States-Japanese economic relations.

Need it be said this is a very explosive topic in American politics at this time of closed automobile plants, closed steel plants and high unemployment. Perhaps 2 years ago we were suffering from our own panic about Japan as No. 1. It was reflected in the title of best-selling books—"The Art of Japanese Management," "Theory Z," and "Japan as Number One."

I do detect a greater confidence now. After all, the best-selling book is Search of Excellence, about the skills of American companies. There is a fear in some quarters that the export of some Alaskan oil would reduce the trade imbalance between the United States and Japan and so take attention away from the serious issues that do need to be faced and that the ultimate cost will be higher unemployment in the United States.

I see the effects differently. The current economic tensions have a number of causes, but two stand out. And these are where the focus of concern should be in United States-Japanese economic relations. One is the serious undervaluation of the yen. As a member of the previous panel, Mr. Howard Marlowe of the AFL–CIO, has observed, over the past 2 years the sharp drop in the value of the yen has increased the inflow to the U.S. of manufactured goods from Japan, causing job losses and serious disruptions of U.S. manufacturing industries.

How is an American firm going to compete against a Japanese firm when the yen is perhaps 20 percent below what it should be? That exchange rate, not exporting Alaskan oil, is what costs jobs, but here we get into the cost of high interest, monetary policy, and the budget deficit. I think that the question of the effects of domestic economic policies on our international competitiveness is something that really does require further thought and examination.

The second reason for the acuteness of the current trade tensions with Japan is the recession. World trade used to grow at about 8.5 percent per year. It has recently been flat or contracting in this 3-year recession. No part of our economy has suffered more than the basic industries in manufacturing, but we are not alone. The Japanese, of course, have been going through the same experience.

I hope that a significant part of these trade tensions between the United States and Japan can be ameliorated by a more realistic exchange rate and by return to economic growth, and whether we do or do not export oil to Alaska does not seem to me to address these specific central problems.

I do not think we need to be concerned that the export of 200 or 300,000 barrels a day of oil will prevent an improvement from our point of view in our trading relationship with Japan.

Indeed, it can help. We have a strong interest in seeing the Japanese market become more open. This, too, is a very contentious issue. In response to pressure from the United States and other industrial nations, Tokyo has taken major steps, but more need to be done.

Now some argue that the export of Alaskan oil will work against that opening. I think it will have the opposite effect, that it will work to the advantage of those within Japan trying to open up the domestic market. The domestic politics of import policy are no less complex and contentious in Japan than in the United States.

I have observed that the issue of Alaskan oil has a high visibility in Japan, much higher than in the United States. It is seen as a significant form of trade discrimination and many otherwise well-informed Japanese think that the ban is a specific embargo against Japan—not only in spirit but in the letter of the law. Its existence becomes a domestic argument against reform or access to the Japanese market.

Allowing the export of some Alaskan oil to Japan would not take pressure off Japan to open its markets, but rather increase that pressure in a positive and constructive way to open those markets.

So, in conclusion, the major players on Alaska's North Slope and others have made their investments and commitments in shipping, refining, and marketing. If the ban were lifted, it would seem likely that in the range of 200,000 to 300,000 barrels a day might be exported. Perhaps a revision of the ban might be limited to such an amount plus oil from new fields.

The realities of the situation, the nature of the commitments that have been made and the domestic tanker question—these are reasons not to make any dramatic change in the Alaskan oil destination at this time. Aside from those, however, there are many international trade and national security issues that have been raised that seem to me to be upside down and instead actually do argue for modification that would allow at this time for the export of perhaps 10 to 20 percent of Alaskan oil.

Thank you.

[Mr. Yergin's prepared statement follows:]

PREPARED STATEMENT OF DR. DANIEL YERGIN[1]

I. ALASKAN OIL: A NATIONAL ASSET

"What were the most important actions on the U.S. energy scene since the 1973 embargo?" If asked this question, we might cite four:

One was the partial decontrol of natural gas. Fortunately, natural gas is not a subject we need to address today.

The other three involve oil: the automobile fuel-efficiency standards; decontrol of oil; and the go-ahead on the development of Alaskan oil.

The second oil shock of 1979-80 was bad enough; oil went from $13 to $34 a barrel. It would have been much worse without the substantial additions to world petroleum supplies from new non-OPEC oil in the late 1970's. Alaskan oil was one of the major additions. It was 173,000 barrels a day in 1976; by 1979, it had built up to 1.4 million barrels a day. In other words, Alaskan oil coming to market was not only a significant engineering achievement, but also a great and timely boom.

Alaskan oil is a very significant national asset. The question that underlies this hearing is how to manage that asset to maximize its benefits.

There are two schools. One believes that it is inherently better for Alaskan oil to be reserved for exclusive use in the United States. This is a view that tends to see the United States as insulated from the world market. The other, which favors the lifting of the ban on exports, sees the United States as part of the world market.

The positions are rather strongly etched. I prefer to take a middle of the road position. Circumstances and conditions do argue for a political revision of the ban on exports. But, I also believe that proponents of the ban do raise legitimate and important issues that need to be met.

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The proponents of the ban argue that it is important to maintain the domestic tanker capability. This seems to me correct in principle. This need deserves to be examined in a broader context, as well.

Second, the proponents of the ban argue that a very substantial investment has been made on the basis of rules laid down by Congress a decade ago; and, it is unfair to change those rules and penalize those who have played by the rules. I think that there is much merit in that argument, and it provides a reason to modify—without totally changing—the rules.

I do see strong arguments in favor of modification, which I shall discuss in the context of the world oil markets, national security, and United States-Japan relations.

II. THE WORLD PETROLEUM MARKET

Once upon a time, up until the early 1970's, there were two world oil markets outside the communist world—the United States and the "rest of the free world." Now there is only one, an integrated world oil market, and we are part of it. If there is a splash in one part of the puddle, it affects the price of all the drops. If prices go up, as a result of disruption, the prices of all oil will go up—including Alaskan—notwithstanding on whose roads that oil is burned. Restricting Alaskan oil to U.S. destinations does not—contrary to the arguments of the ban's proponents—insulate the United States from the price effects—which have been the real effects so far.

Some argue that exports will increase our imports of oil. That is true insofar as gross imports are concerned, but our net import position will be the same.

TABLE I.—*U.S. net imports: 1981*

[Million barrels per day]

Imports	5.0
Exports	−.8
Net imports	4.2

TABLE II.—*Net imports effect if Alaskan exports permitted*

[Million barrels per day]

Actual imports	5.0
Imports to compensate for Alaskan Exports	.2
Actual exports	−.8
Alaskan exports	−.2
Net imports	4.2

Moreover, the key question—since it is an integrated world market—is not the amount of oil imports into the United States, but the amount imported into the entire OECD, and that would remain virtually the same.

Finally, some argue that the exports would be replaced by imports from the Middle East. I cannot see why this is self-evident. I have been in Venezuela twice in recent months. The Venezuelans desire greater access to our market; and they have spent substantial sums to upgrade their refineries and change their product mix to meet our market needs.

In sum, the benefits of insulation that the United States is supposed to gain from a ban are difficult to find in the context of the world oil market.

III. NATIONAL SECURITY AND ALASKAN OIL

This brings us to the question of national security and Alaskan oil.

The proponents of the ban make a national security argument that I find of considerable significance—the need to maintain domestic tanker capacity, work force, and shipbuilding skills. It would indeed be very unfortunate to lose that capability. That issue requires further examination beyond the context of the Alaskan oil issue, in light of both the Falklands war and possible U.S. military obligations and needs in various parts of the world. And it is very important to ask what effect 200,000 to 300,000 barrels a day of exports would have on that capability.

Several other arguments are also offered under the heading of national security. I have much more difficulty following them.

Some argue that the export of 200,000 barrels a day threatens the supplies to our national defense establishment. Perhaps that is the case, but nothing I have read explains how the export of perhaps 2 percent of domestic U.S. production is going to cripple the Pentagon.

The subject gets murkier as we proceed. Do exports threaten national security in "normal times?" It is very hard to make that argument.

So the real question of security has to do with what happens during times of volatility and disruption. I agree with Mr. Frank Pecquex of the Seafarers International Union that "we should not be fooled by the current oil 'glut'." (1) Many of the other proponents of the ban feel the same way, and I certainly share that concern. Turbulence is likely to continue in the world oil market.

But I do not think that the export ban protects us against that turbulence. This is what I have learned from the studies I have done on the world oil market. Both the events of 1973-74 and 1979-80 demonstrated that the world oil market is one market, and that competitive bidding for supplies—panic buying—drives up the price. And it is those price effects, at least so far, that have been so devastating in terms of inflation, lost economic growth, and unemployment.

We could pursue an isolationist path on oil—but that would work against our interests for two reasons. First, if the prices are pushed up by others, we will end up paying the same prices. So refusing to export any Alaskan oil as a way to protect us against the world market does not do much good.

Second, we are party to the International Energy Program by treaty, which goes back to 1974, and which provides for a voluntary or mandatory allocation system among the oil consumers if a shortfall should exceed 7 percent. Alaskan barrels will be counted with all other barrels in making the allocations. We became part of this system because we wisely realized that what counts is not just the United States, but the entire group of industrial consumers. Thus, the argument about the specific destination of Alaskan oil during a crisis does not seem particularly relevant to how things would actually work.

It seems to me that it is in our security interest to see Japan as a diversified importer. For one thing, Japan runs neck and neck with the United States for the title of world's largest oil importer. The Japanese panic in 1979 was one of the main forces that drove up prices. If some of their supplies are coming from the United States, I think they would have more security, we would have more influence—and that would serve our interests during a crisis.

I am one who believes that close relations with both Japan and Western Europe are fundamental to our national security, and that the more we can strengthen those relations on all levels, the safer we will be.

IV. UNITED STATES-JAPAN ECONOMIC RELATIONS AND ALASKAN OIL

This, of course, brings us to the next level of consideration—United States-Japanese relations.

This is an explosive topic in American politics in this time of closed automobile factories and steel plants, and the 10 percent unemployment. Perhaps 2 years ago, we were suffering from our own panic—about Japan as No. 1. It was reflected in the title of bestselling books: "The Art of Japanese Management; Theory Z;" et cetera. But I detect a greater confidence now; after all, the current bestselling book is "In Search of Excellence"—about the superior skills of American companies.

There is an understandable fear in some quarters that the export of some Alaskan oil would reduce the trade imbalance between the United States and Japan; and so take attention away from the serious issues that need to be faced—and that the ultimate cost will be higher unemployment in the United States.

I see the effects differently. The current economic tensions have a number of causes, but two stand out. These are where the focus of concern should be in United States-Japan ecomomic relations.

One is the serious undervaluation of the yen. As Mr. Howard Marlowe of the AFL-CIO has observed, "Over the last 2 years, the sharp drop in the value of the yen has increased the inflow to the United States of manufactured goods from Japan, causing job losses and the serious disruptions of U.S. manufacturing industries."

How is an American company going to compete against a Japanese firm when the yen is perhaps 20 percent below what it should be? That exchange rate does cost jobs. But there we get into the costs of high interest rates, monetary policy, and the budget deficit. And I think that the question of the effects of domestic economic policies on our international competitiveness needs further examination.

The second reason for the acuteness of the current trade problems is the recession. World trade used to grow at 8.5 percent a year. It has recently been flat or contracting because of this 3-year recession. No part of our economy has suffered more than the basic industries and manufacturing. But we are not alone. When our steel industry was operating at only 40 percent capacity, so was the Japanese aluminum industry, and the Japanese have been going through their own process of rationalization.

I hope that some significant part of the trade tensions between the United States can be ameliorated by a more realistic exchange rate and by a return to economic growth. A third factor will help.

Thus, I think we need not be concerned that the export of 200,000 or 300,000 barrels a day of oil will prevent an improvement, from our point of view, in our trading relationship with Japan.

Indeed, it can help. We have a strong interest in seeing the Japanese market become more open. This is a contentious issue. In response to pressure from the United States and other industrial nations, Tokyo has taken major steps. But more needs to be done. Some argue that the export of Alaskan oil will work against that opening.

I think it will have the opposite effect—that it will work to the advantage of those within Japan trying to open up the domestic market.

The domestic politics of import policy are no less complex and contentious in Japan than in the United States. I have observed that the issue of Alaskan oil has a high visibility in Japan—much higher than in the United States. It is seen as a significant form of trade discrimination, and many otherwise well-informed Japanese think that the ban is a specific embargo against Japan—not only in spirit, but in the letter of the law. Its existence becomes a domestic argument against reform or access to the domestic Japanese market.

Allowing the export of some Alaskan oil to Japan would not take pressure off Japan to open its market, but rather increase that pressure—in a positive way—to open those markets.

V. CONCLUSION

The major players on Alaska's North Slope have made their investments and commitments in shipping, refining, and marketing. If the ban were lifted, it would seem likely that in the range of 200,000 to 300,000 barrels per day might be exported. Perhaps a revision of the ban might be limited to such an amount, plus oil from new fields.

To summarize: the realities of the situation, the nature of the commitments that have been made, the domestic tanker capability—these are the reasons not to make any dramatic change in the Alaskan oil destination at this time. Aside from those, however, many of the international trade and national security issues that have been raised seem to me to be upsidedown and instead argue for a modification—yes, a compromise—that would allow for the export of perhaps 10 to 20 percent of Alaskan oil.

Senator MURKOWSKI. Thank you very much, Mr. Yergin. I am going to have to run over and vote. I am sorry for the inconvenience it will cause, but I hope to be back in about 7 minutes. We will recess until I return, and I would appreciate your forbearance as a panel because I do have some questions for you.

[A brief recess was taken.]

Senator MURKOWSKI. We will call the hearing to order. I would like to thank the court reporter for bearing with us in a rather lengthy day, and recognize her at this time.

Mr. Palmer, I believe you are up next.

STATEMENT OF ANDREW PALMER, ENVIRONMENTAL POLICY CENTER AND CONGRESS WATCH, WASHINGTON, D.C.

Mr. PALMER. Thank you, Mr. Chairman. I would also like to thank you for this opportunity to present our views.

I am employed by the Environmental Policy Center and I am representing the Public Citizens Congress Watch on this issue. I will be very brief, considering the late hour and how much has already been said.

As you have already noted in your opening statement, this has been a very long and controversial issue, with the emotions running high on both sides. Reaction to the oil crisis in the early 1970's, together with construction of the trans-Alaskan pipeline has created legislative language that effectively bans the export of Alaskan crude oil to foreign sources.

Today there exist conditions that are vastly different from the ones that were operating in those early years. Arab OPEC oil is no longer a major block of our imported oil. In recent months, the Arab component of OPEC oil has fallen to 30 percent. The United States is presently undertaking the filling of the strategic petroleum reserve, which is planned to buffer the Nation in times of any future oil embargoes.

To further underscore how much the situation has changed, Congress has allowed the export of refined products with the result that today the United States, as the chairman has noted, exports between 600,000 and 700,000 barrels per day. I might also note that that export comes primarily from the gulf coast and the west coast.

It is our belief that changes are warranted in policy and that Congress should take some timely action in this regard. It is our further belief that by permitting the export of Alaskan crude certain environmental advantages and consumer benefits could be realized.

First, we would move toward developing a more efficient and rational system of delivery of petroleum goods. Currently, Japan must import much of its oil from the Persian Gulf, as has been noted. Alaskan oil, at the same time, must be moved long distances from Valdez to the gulf coast, occasionally even requiring a tanker to sail around the horn. Even small amounts of exported crude to Japan would remove some of this present irrationality.

Second, some smaller, less fuel efficient tankers would presumably be retired. Some of these smaller tankers, the T-2, for instance, burns up 350 barrels per day carrying a much smaller amount than a VLCC, which can burn as little as 70 barrels per day.

Third, moving some of this Alaskan North Slope crude tanker traffic away from the coastlines to open sea routes would reduce the risk of disastrous spills in the sensitive coastal areas. The chairman has already noted that the conglomeration of great numbers of tankers in Long Beach Harbor to refuel underscores how this traffic has grown and the effect that it has had on the west coast.

Fourth, the hastened retirement of some of the smaller older tankers would be a benefit to safety. Statistics on tanker accidents indicate that tankers toward the end of their useful life are most prone to accidents and spills.

Fifth, export would reduce the need for additional petroleum transportation and refining facilities to be constructed. For the near future, excess quantities of crude supplies are anticipated on the west coast. Several pipeline proposals and refinery expansions are currently on the books. All would carry severe environmental tradeoffs and undoubtedly would have strong local opposition as those in the past have. Removing the pressure of excess crude by allowing export would remove much of the present justification for these projects.

Sixth, as others have already attested, entry of Far Eastern countries into the Alaskan crude trade would have a positive benefit for taxpayers and, by the reason that taxpayers are also consumers, a positive benefit for consumers. Additionally, nonproducer buyers of Alaskan North Slope crude would introduce added competition and no doubt result in a wellhead price hike, some estimates of which are $2 to $4 a barrel.

There has been a lot of speculation of the effect of export on consumer prices, especially in the west coast area. I would like to note that before I came over today I checked the Oil & Gas Journal's latest figures on gas prices around the country. There was barely a 1-cent spread between the prices on the west coast, the gulf coast, and the east coast. So I find that at least in the gasoline market the supposed pressure of Alaskan oil to keep prices low is not operating.

However, even if a price did take place, it would not likely be of much magnitude. The higher risks would be from reduction of competitors in the west coast market, which could have a significant long-term effect on prices.

Some companies that are involved in the North Slope crude trade presently are using price advantages in this west coast market, and the fear is that some of the independent refiners and distributors may eventually have to go out of business if this continues.

Now there is no way to tell for sure whether these companies are using the profitability of the present transportation system and the netback to the wellhead to finance this rather predatory practice, but at least if there was an arm's length transaction with third parties we would have a better idea of where prices and profit really are breaking out.

We also agree with the others who say these are distinct foreign policy advantages for the United States in relationship both to Japan and Mexico. A strong, stable Japan has been a foreign policy objective since the end of World War II. In a like manner, the stability of Mexico, who would likely benefit greatly by having increased access to U.S. markets for its oil, if export took place, is of growing interest to our security, as the papers will attest every day.

In conclusion, we at the Environmental Policy Center and Congress Watch feel that the time is right for a course change in our international energy policy. World events have altered significantly from the time of the original Arab oil embargo, and the original reasons for banning the export of domestic crude no longer operate to our benefit.

Congress has already acknowledged this by the fact that it has chosen to allow the export of refined products. The argument does not turn on whether exports ought to be allowed, but only in what form these exports take place. I urge the members of this committee to take note of present reality and to take actions that correspond to it.

Thank you.

[Mr. Palmer's prepared statement follows:]

PREPARED STATEMENT OF ANDREW PALMER

We thank you for the invitation to present our views here today. The subject of the export of Alaska North Slope crude oil [ANS] has long been a controversial one, going back to the time when the original authorizing legislation was created for the Trans Alaska Pipeline. Set against the background of the Arab oil embargo, many people felt that all domestic production ought to be reserved exclusively for domestic production. Since then legislative language has been included in several different pieces or legislation to bar the export of ANS crude. Currently, the Export Administration Act now before Congress for reauthorization, contains language which effectively bars the President from allowing such export.

Today we find a much different world than we had at the time of the creation of Alaskan pipeline legislation. Worldwide oil production has exceeded demand causing a glut of oil on the market. New, non-OPEC, producers have entered the scene (i.e. Great Britain and Norway). The United States now has the Strategic Petroleum Reserve to buffer it against potential new embargos. OPEC's share of the world market has fallen dramatically from historic levels of the early 1970's. In 1982, the United States imported 840,000 barrels per day [b/d] of Arab OPEC oil, amounting to less than 40 percent of total OPEC imports. Figures for the first quarter of this year show Arab oil only amounts to 30 percent. To indicate just how much the situation has changed today, the United States is now an oil exporting nation in its own right, contributing over 700,000 b/d of petroleum products to non-U.S. dependencies (DOE-IEA, April 1983).

Given the set of conditions now existing in today's petroleum market, we have reexamined the total ban on Alaskan export and found the policy no longer justifiable. Indeed, we see the following advantages to the partial lifting of the present ban as:

Developing a more logical crude oil transportation system by moving oil over shorter distances to more natural markets.

Reducing environmental risks by shortening distances traveled and shifting the traffic away from coastal areas.

Lessening the need for construction of additional shoreside facilities to transport and/or process the oil.

Increasing tax revenues generated by the production of Alaskan oil.

Maintaining assured competitiveness in the West Coast oil market.

Establishing foreign policy benefits for the U.S. in its relationship with both Japan and Mexico.

TRANSPORTATION EFFICIENCY

Current transportation patterns for the production and marketing of ANS crude are distorted by influences that have nothing to do with rational economics. Legislatively captured, Alaskan oil must transit down the West Coast to refineries in Washington and California, be pumped through a pipeline across Panama or sailed around the Horn to refineries on the Gulf Coast. At the same time, Japan must import its oil from the Persian Gulf, the west coast of Africa, and from Mexico and Latin America. To make the situation even more absurd, domestic crude is then refined, including banned ANS, and exported to Japan at the rate of over 160,000 b/d (The average total daily rate of exported product by the United States in April was over 700,000 b/d according to DOE-EIA documents).

Because fossil fuels are a finite resource, history will judge whether we use them wisely. The continued use of gas guzzling cars when more fuel efficient vehicles are available can only be seen as an irresponsible way to manage diminishing resources. Similarly, using unnecessary amounts of bunker fuel to move oil to distant markets when closer ones exist is equally foolish and wasteful. Oil has so many vital non-fuel uses in our society that it is pure folly to put any more than is necessary under boilers, in turbines, or through carburetors. Moving a limited amount of ANS crude to Japan will not solve the whole problem but will take us in a direction toward more efficiency in the way we handle the resource.

REDUCING OIL SPILL RISKS

There are three factors which play a major role in the calculation of oil spill risks from tanker accidents. They are the number of miles transited, traffic density or other navigational hazards, and the age and condition of the tanker.

As I have already indicated, export to Japan would decrease dramatically the miles for ANS crude to travel. In addition, this 200,000 b/d would be carried on the open sea. Presently it is transported along thousands of miles of coastline in some of the busiest marine waters in the world. The risk of severe environmental damage resulting from a spill is magnified by the fact that spills in the near-shore region will more likely impact fragile coastlines than spills which occur in the open ocean. Clearly export will serve to reduce this risk factor.

The United States has by far the greatest percentage of older ships in its merchant fleet than any other nation. In fact, the United States has almost four times the tonnage of ships over 30 years of age than the rest of the world combined. Some of the tankers engaged in crude oil shipments are of World War II vintage. It is very likely that much of the export to Japan would be carried in the newer, larger, more efficient tankers and would displace around 700,000 DWT of tankers, most of which would be these older, less efficient ones (An ancient T-2 tanker burns 350 b/d of fuel vs. 70 b/d of some of the newer class). While many of these older tankers are slated to be removed from service when legislated safety improvements become mandatory in 1986, export would undoubtedly have the benefit of retiring some of them earlier, reducing the risk of accident.

CONSTRUCTION OF NEW INFRASTRUCTURE

Development of new off shore fields in California, combined with enhanced recovery techniques for on shore sites will keep surpluses high on the West Coast until into the late 1990's. These surpluses serve to keep pressure on for the construction of additional facilities to process and refine the oil or to ship it via pipeline to the Gulf Coast or the Mid-Continent area. Already, one pipeline across Panama has been built for the Alaskan trade. Still in the planning stages are pipelines and tanker ports for Long Beach, Calif., Washington State, and a trans Costa Rica route. Several oil companies have also recently explored the possibility of constructing a giant common use terminal and refinery for Southern California. Any of these proposals carry severe environmental impacts including stress to marine organisms as well as significant air quality deterioration. Undoubtedly, most of these projects will face stiff local opposition. The export of of ANS crude might well remove the need for construction of most, if not all, of these projects.

TAXPAYER/CONSUMER BENEFITS

Combined governmental subsidies for the U.S. maritime industry has reached $1 billion annually, including $350 million in additional shipping rates paid above what world rates would cost ("How the U.S. Sends Rustbuckets to Sea, Sailors to their Graves", *Philadelphia Inquirer* May 1, 1983). While little reform of this industry can be expected, taxpayers and consumers ought not to pay any more than is necessary.

Yet because of pricing methods used by the North Slope producers taxpayers end up subsidizing, in effect, $0.91 on every shipping dollar. All taxes collected by the United States and the State of Alaska are based on the wellhead price as it comes out of the ground. This includes royalties, windfall profits taxes, and severance taxes paid to Alaska, and Federal income tax. The wellhead price is determined by the companies by setting a value on the oil delivered to the refinery (in the case of oil delivered to the Gulf Coast, approximately $30.00 a barrel). Then all shipping charges, including tanker and pipeline costs, are subtracted. This results in an average wellhead price of $19.00 per barrel for oil delivered to the Gulf Coast. Several of the North Slope producers carry the oil in their own tankers as well as delivering it to their own refineries. This vertical integration makes it difficult to determine where the companies are making their profits and if the shipping charges are truly reflective of real costs. Every dollar spent in shipping means a dollar less of the wellhead price. Every dollar less of wellhead prices mean a loss of $0.91 of potential revenues for taxpayers and adds additional costs to the consumer. The entry of a third party in Alaskan oil market who owned neither the oil, the pipelines, nor the tankers would enable a clearer picture of the true costs to be reflected. Japanese access to Alaskan oil would undoubtedly drive the price at the wellhead up.

With their vertical integration and wellhead price manipulation, the North Slope producers find ANS crude production to be a major profit center. As a result some of the companies have used this high profitability to introduce refined product into the highly competitive West Coast market at discounted prices. Small refiners and distributors have found themselves at a serious disadvantage, often paying higher wholesale prices for gasoline than the majors are selling it retail on the streets. Over the long term, many of these firms may go out of business, ultimately causing a loss of competition. With fewer competitors, pressures to keep prices fair will be diminished. A competitive third party, such as the Japanese, would make it more difficult for the North Slope producers to hide their costs. Driving down the profit margin would make it less likely that the practice of discounting would be able to continue on its present scale.

NATIONAL SECURITY AND FOREIGN POLICY BENEFITS

Japan, of all the Western industrialized countries, is most vulnerable to oil embargos—almost totally dependent on Persian Gulf crude to fire her industrial engines. Recently, the Japanese have made a strenuous effort to diversify their suppliers and to lessen their vulnerability. Seeking access to supply from a long-time stable ally is very understandable. It has been U.S. policy since the end of World War II to establish Japan as a strong and vital anchor in the Western Pacific. Energy supply security certainly fits into this goal. Under an International Energy Agency agreement, the United States is pledged to supply up to 500,000 b/d to Japan if their supply is interrupted. Granting the Japanese access to 200,000 b/d of surplus oil would be a demonstration of that commitment.

Another country which stands to be damaged by the present policy of banning exports of ANS crude is Mexico. As production rises on the West Coast more and more of Alaskan crude will be transported to the Gulf Coast. This will result in reducing the amount of Mexican crude this country imports, a situation which the Mexican economy can ill afford. Mexico's precarious financial condition in the western credit markets has been well publicized. A loss of oil revenues might be disastrous, not only for Mexico, but for major U.S. banks which carry Mexican loans. Further, with increased instability in Central America, the need for a healthy, stable Mexico is at least as important as a viable Japan. The partial export of Alaskan crude seems like such a simple solution.

In summary, we feel that the time is right for a course change in our international energy policy. World events have altered significantly from the time of the original Arab oil embargo that the original reasons for banning the export of domestic crude no longer operate to our benefit. Congress has already acknowledged this by the fact that it has chosen to allow the export of refined product. The argument does not turn on whether exports ought to be allowed, but only in what form these exports take place. I urge the members of this committee to take note of the situation as it exists today and to recommend actions which respond to reality.

Senator MURKOWSKI. Thank you, Mr. Palmer. I very much appreciate that very fine paper. I assume that there is going to be another vote very shortly, so I intend to wrap up this hearing after asking a few questions. I am sorry that I cannot ask as many questions as I would like to. However, I would like your assurance that I may prepare questions during this 2-week period and I would appreciate your perserverence in responding.

For the panel, could you comment on what effect you would expect exports to have on consumer prices? You have kind of touched on it, but you have indicated, Mr. Palmer, you did not see much change in gasoline prices on the east coast. It has been contended in earlier testimonies that in effect there is a west coast discount.

Of course, it is very complex because it is determined within the individual companies. Do you think the consumer will see a differential at the pump or his fuel tank?

Mr. HOYLER. Why don't I take a stab at that, Mr. Chairman? There are two arguments about discounting. Mr. Cooper made both of them. He argues that Alaskan crude sells for less than its quality-adjusted world price both on the gulf and east coast and on the west coast.

The first argument, that Alaskan crude sells at a discount on the gulf coast, is empirically unfounded. I have looked at recent Energy Department data on comparable quality crudes. DOE says that, adjusted for quality, Alaskan crude sells for the same price on the gulf coast as do comparable quality imports.

Now to the west coast. Since decontrol, which is when we observed something more like free market, there has been a discount on the west coast at the refinery gate for crude. The important question is whether that discount for crude is passed through to the consumer in the form of lower product prices.

The answer to this question is complicated by the fact that there are integrated firms on the west coast who have an incentive, as I mentioned in my testimony, to pass their profits from the wellhead, where they are subject to high rates of taxation, either down into their tanker operations or into their refining operations.

In Arco's case this past spring, data indicate that they were passing through a discount at the product level to the pump. The important question, though, is whether that is a function of tax policy, as has been alleged, or whether that is a function of the west coast crude discount resulting solely from the exports ban.

It is my view that the exports ban does create an incentive to discount crude. If you discount your crude prices on the west coast, your netback at the wellhead is still larger than your netback if you had to sell that crude in the alternate market of the gulf coast, owing to the existence of the exports ban.

However, it is my view that very little of this crude discount would be passed through to consumers, absent tax manipulations and the different marketing strategy that Arco adopted, along with getting rid of credit cards and so on. So, to summarize my answer, my belief is that if we lift the export ban and thereby remove the incentives for a west coast crude discount, we will in fact see refiners having their margins squeezed. We will not see dramatic price increases for consumers.

The California Energy Commission looked at this issue and concluded that consumer price impacts, if any, would be very minor.

Mr. YERGIN. Mr. Chairman, could I just add? There are so many other variables involved—the rate at which new oil in the Santa Maria Basin comes on, which of the two cars families drive, and all that sort of thing—that it seems to me that the export of a couple hundred thousand barrels a day is unlikely to have any appreciable noticeable effect.

Senator MURKOWSKI. Would you agree with that, Mr. Palmer?

Mr. PALMER. Yes, I would agree. The thing to realize is that no refinery ever runs one particular product, not the ones on the east coast nor the west coast. You are running a mix of crude.

You are running, in many cases, Indonesian through with it. When they talk about retrofitting the refineries, they retrofit them to allow them to process this product in conjunction with their other crudes that they run, and, therefore, you are not seeing a pure product come out the other end. You are seeing a mix, and it is a mix of price. As Mr. Hoyler has indicated, it is a very complicated way that it comes out finally into the consumer market.

Senator MURKOWSKI. I see. In the characterization of the opposition to the exports, previous testimony touched on the lack of merit of the economic, and national security arguments vis-a-vis the real concerns of the American merchant marine, and the political realities that we are aware of.

I noted that in your testimony, Mr. Hoyler, you indicated that there had been substantial contributions made on Capitol Hill. I think you indicated about $2.2 million. Is that right?

Mr. **Hoyler**. Yes, sir.

Senator **Murkowski**. It was not clear. You indicated that that compared with the United Auto Workers about 40 to 1. Would you elaborate a little?

Mr. **Hoyler**. Yes, sir. The point I was trying to make there was the extent to which there is a concentrated interest in maintaining this exports ban.

Senator **Murkowski**. I gathered that; yes.

Mr. **Hoyler**. The comparison that I made was between the contributions per member from maritime unions, taken as a group, with the contributions per member of, for example, another politically active group, the United Auto Workers.

Senator **Murkowski**. To Members of Congress?

Mr. **Hoyler**. The "per member" refers to members of the respective unions.

Senator **Murkowski**. Where is the money going?

Mr. **Hoyler**. It goes to Members of Congress.

Senator **Murkowski**. To Members of Congress. How many Members of Congress?

Mr. **Hoyler**. Well, I can answer based on Federal Election Commission data, but I do not have that number broken out here.

Senator **Murkowski**. Could you supply it for the record? I am interested in your submission, in specific, your statement of $2.2 million. You indicated that it went to Congress and I would like to have a breakdown of how many in the House and how many in the Senate, or something that is substantive, because we have got a political problem here. Let us recognize it as a political problem in the considerations of the other constraints which are the concern of the merchant marine or potential loss of jobs.

Mr. **Hoyler**. I would be glad to submit that for the record.

Senator **Murkowski**. Can you submit that general information? I think it would be appropriate for the committee to consider it in the interest of making a complete record on the issue.

[The information referred to follows:]

CONGRESSIONAL CAMPAIGN CONTRIBUTIONS

Five maritime union political action committees contributed roughly $2.2 million to Congressional campaigns in 1981–1982. Table A shows these funds were distributed between parties and between the Houses of Congress. Large absolute sums went to the House. However, the average Senate contribution was larger than the average House contribution.

TABLE A.—MARITIME UNIONS' CONGRESSIONAL CAMPAIGN CONTRIBUTIONS, 1981–82

	Senate		House	
	Candidates	Contribution	Candidates	Contribution
National Maritime Union:				
Democrats	11	$8,500	89	$53,800
Republicans	3	1,842	8	3,800
Total	14	10,342	97	57,600

TABLE A.—MARITIME UNIONS' CONGRESSIONAL CAMPAIGN CONTRIBUTIONS, 1981–82—Continued

	Senate		House	
	Candidates	Contribution	Candidates	Contribution
MEBA political action:				
Democrats	18	129,000	139	365,653
Republicans	10	34,000	57	172,500
Total	28	163,000	196	538,153
Marine Engineers Benevolent Association, district II:				
Democrats	15	60,000	114	279,350
Republicans	7	16,500	22	52,950
Total	22	76,500	136	332,300
Seafarers political action donation (SIU):				
Democrats	36	181,500	258	543,476
Republicans	10	47,583	52	77,995
Total	46	229,083	310	621,471
Masters, Mates & Pilots:				
Democrats	20	84,200	81	98,602
Republicans	1	1,000	9	5,850
Total	21	85,200	90	104,452

Source: Federal Election Commission data as of Apr. 4, 1983 and June 14, 1983.

Two kinds of comparisons help put maritime contributions in perspective. Table B shows that maritime union members contribute much more than do members of other politically active unions. (Merchant sailors contribute roughly $40.00 per person. This is almost 20 times as much as the next most generous union—the ILGWU, whose members contribute $2.22 apiece.)

TABLE B.—CONGRESSIONAL CONTRIBUTIONS PER UNION MEMBER, 1981–82

Union	Congressional contributions	Union membership	Contribution per union member
AFL–CIO	$783,025	[1] 14.2	$0.06
American Federation of Teachers	315,175	580,000	.54
Communication Workers of America	545,278	650,000	.84
International Ladies Garment Workers Union	621,963	280,000	2.22
National Education Association	1,181,415	[1] 1.7	.69
United Auto Workers	1,417,446	1,150,886	1.23
United Food & Commercial Workers International Union	712,502	[1] 1.3	.55
United Transportation Union	440,715	215,775	2.04
Maritime Unions	2,218,101	55,000	40.33

[1] Amount in millions.

Sources:

Union Membership—These figures were obtained from Government Research Corporation and/or phone inquiries of unions' Washington D.C. offices.

Contributions—All but the maritime figures come from Robert Cohen, "The Leaders of the PAC's in Campaign Giving," National Journal, Dec. 18, 1982, p. 2148. Cohen's figures report FEC data as of Nov. 22, 1982 except for CWA figures, which report FEC data as of Oct. 13, 1982. Since maritime contributions figures come from more recent FEC data, this table may understate other unions' contribution.

Table C shows that maritime unions tend to be substantially more bipartisan in their contributions than do other major unions. Almost 20 percent of maritime union contributions go to Republican candidates. This is roughly twice as much as the Republican share of contributions from the next most bipartisan union contributor—United Transportation Union.

TABLE C.—BREAKDOWN BY PARTY OF UNIONS CONGRESSIONAL CONTRIBUTIONS, 1981-82

Union	Contributions by party	Percent Democratic of total contribution
AFL-CIO:		
Democrats	$780,525	99.7
Republicans	2,500	
American Federation of Teachers:		
Democrats	311,075	98.7
Republicans	4,100	
Communications Workers of America:		
Democrats	541,028	99.2
Republicans	4,250	
International Ladies Garment Workers' Union:		
Democrats	613,963	98.7
Republicans	8,000	
National Education Association:		
Democrats	1,118,765	94.7
Republicans	62,650	
United Auto Workers:		
Democrats	1,403,996	99.0
Republicans	13,450	
United Food & Commercial International Union:		
Democrats	693,102	97.3
Republicans	19,400	
United Transportation Union:		
Democrats	400,225	90.8
Republicans	40,490	
Maritime Unions:		
Democrats	1,804,081	81.3
Republicans	414,020	

Source: Same as stated above.

Senator MURKOWSKI. I have several other questions, but I think that with the testimony which you have given and the opportunity afforded us to submit to you any further questions, that we have done a reasonable job of completing a worthwhile hearing on this subject.

I particularly want to thank you. I think we have had a change of environment, if you will, in the last decade since this type of protective legislation was promulgated by Congress, and the question that we are debating today is whether it is timely to take a look at it again given the realities that do exist and with the surpluses that exist.

One of the things that was pointed out, of course, is what is the likelihood of that surplus remaining on the west coast as further discoveries are made or not made? I guess the industry is going to eventually determine at what rate that does occur.

I think during the entire hearing the matter of free trade has been aired, as well as the difficulties associated with our ability to compete in a maritime environment that is truly free as far as the trade concept is concerned. We pass laws like the Jones Act designed to do something specific, and that is, protect our merchant marine.

And one can only question whether that is actually achieved or whether perhaps we have done an injustice, but that, of course, is the subject of other hearings and further debate, which undoubtedly will occur.

I do not want to ramble on too much, but I think it is probably fitting to try and summarize what I think we have basically covered. Again, I want to thank you gentlemen for bearing with us today. It is always tough to be the last witnesses. On the other hand, sometimes it is more enlightening, too. So with that, I would thank you for your excellent testimony and your great assistance in making this record.

And again, I would like to thank those of you who bore with us and the court reporter as well.

The hearing on the export of Alaskan crude oil and its foreign policy implications is hereby adjourned. Thank you.

[Additional questions and answers follow:]

MR. MARLOWE'S RESPONSES TO ADDITIONAL QUESTIONS SUBMITTED BY SENATOR PELL

Question 1. Mr. Marlowe, yesterday the Committee heard testimony that if we lifted the export restrictions on Alaska oil the United States would almost certainly have to import larger quantities of oil from the Persian Gulf. In your view, does greater dependence on Persian Gulf oil serve U.S. interests? In what ways do greater energy independence promote U.S. interests? And finally, what impact would the removal of export restrictions have on jobs in the United States?

Answer. Increased U.S. dependence on Persian Gulf oil has several negative aspects. First, repeated oil supply disruptions in the Persian Gulf (most notably 1952, 1967, 1973, 1978, 1979) give evidence to the continued political instability in that region. Second, U.S. political interests in the Middle East often conflict with the nationalist interests of the more militant Arab states. Third, a war has been going on for several years between Iran and Iraq. Fourth, political instability in Iran combined with a growing Soviet presence in the region (Afghanistan) tends to increase the likelihood of a United States/Soviet confrontation in the Middle East. Fifth, growing U.S. dependence on Persian Gulf oil will result in greater U.S. military and economic involvement in the Middle East.

Greater energy independence serves several objectives. First, Alaska (and domestic) oil is cheaper than oil imported from OPEC countries. Therefore, increased imports of more expensive foreign oil will result in higher raw material costs for U.S. industry and these increased costs will reduce the competitiveness of U.S. goods in foreign trade. Furthermore, since imports will be more expensive than domestic oil and exported U.S. oil and transportation costs on foreign-flag vessels will be incurred, the U.S. foreign trade deficit will be increased. There is also a consumer cost issue discussed in some detail in question three below.

Second, keeping Alaska oil within the U.S. economy creates more jobs than if the oil is exported. These jobs have been created within the transportation infrastructure, shipbuilding and repair yards, the refining industry and petroleum marketing and distributing systems.

Third, the national security benefits associated with retaining Alaska oil are considerable. The Defense Department continues to have ready access to a modern efficient tanker fleet that can serve a critical military role during a national emergency. In the event of a disruption in international oil supplies the existing logistic system can allocate oil from regions with surplus supplies to regions with shortages on short notice. By keeping Alaska oil in the United States the size of the Strategic Petroleum Reserve and taxpayer's costs are minimized.

The impact of exports on employment will depend on the amount of oil shipped abroad. Minimal export levels (100,000 B/D) would generate unemployment of 4,200 while large scale exports would eliminate 37,100 jobs.

Below is a table showing the total employment impact of various export levels.

Barrels per day	Estimated loss in annual transportation revenues (millions)	Employment loss
100,000	$146	4,200
500,000	730	21,000

Barrels per day	Estimated loss in annual transportation revenues (millions)	Employment loss
800,000	1,170	37,100

Question 2. Mr. Goldstein, I have been told that Jones Act ships would be seriously affected by exports and a number of U.S. firms would go out of business completely. The number of tankers going bankrupt could be as high as 35–40 with a proportionate number of jobs lost, depending on export levels. Also, because of the $2 billion in loan guarantees on these ships, a large number of defaults would be costly to the U.S. Treasury. What is your assessment of the economic impact of lifting oil export restrictions?

Answer. Our bottom line conclusions are expressed within export levels under consideration by the administration. These levels range from 200,000 to 1,000,000 B/D. The findings are:

1. Some 15 to 55 tankers (with 1.4 to 5.7 million DWT of capacity) will be permanently displaced by Alaska exports.
2. These displaced tankers (along with tankers presently laid up) will account for 24 to 64 percent of the capacity of the entire Jones Act fleet.
3. Federal government losses that will result from exports include: the default of Title XI loan guarantees; reduction in federal income tax revenues that will result from the write-off of defaults on uninsured tanker debts; and, the loss of income tax revenues from tanker operations and those employed in the marine sector.
4. Title XI loan losses are forecast to range from $500 million to $1 billion depending on the level of exports. These losses should be viewed within the context of $1.6 billion in Title XI loans outstanding in the Jones Act fleet.
5. Another $500 million to $1 billion in uninsured tanker debts will be defaulted on in the event that Alaska oil is exported. These uninsured defaults will cost the federal government an additional $215 to $430 million in tax write-offs.
6. The range in one time tanker related losses (items 4 and 5 to the Federal Government are estimated to be in the range of $715 million to $1.430 billion.
7. Annual losses in tanker and maritime related income tax payments are estimated to be $240 million per year.
8. Jobs lost in the maritime sector could total 37,100 (3,300 seamen, 33,800 onshore support and infrastructure jobs) if 800,000 B/D of Alaska oil is exported.

Question 3. Dr. Cooper, the President of Nathan Associates has testified that the price of Alaskan crude oil sold on the west coast is about $2 lower than the same barrel of oil sold in the U.S. gulf coast. In your judgment what effect would lifting export restrictions have on the cost of gas to west coast consumers? What about consumers on the east coast and the Gulf Coast States?

Answer. Our analysis of Alaska oil prices since price decontrol was instituted in early 1981 indicates that Alaska oil prices have been appreciably below comparable imported oil prices on both the west and gulf coasts. Furthermore, through the competitive process Alaska oil sales on the west coast have also lowered the price of oil produced in California.

With exports we anticipate that Saudi Light crude or other politically priced crude will replace Alaska oil on the gulf coast. Presently some 800,000 B/D (or 292 million barrels per year) of Alaska oil is sold in eastern markets. Our analysis shows that on the gulf coast the delivered price of Saudi Light crude is $30.50/B versus a delivered price of $28/B for Alaska crude oil. Therefore exports would result in a $2 to $3 per barrel (quality adjusted) increase in costs on 292 million barrels per year, of Alaska oil sold in gulf and east coast markets, or an annual increase of $600 to $900 million per year in consumer costs. [Note these figures are updated from the Consumer Energy Council of America, Research Foundation report entitled "The Consumer and Energy Impacts of Oil Exports" dated April 12, 1983.]

On the west coast the economic costs of exports would be of similar magnitude. Alaska oil sold on the west coast (some 800,000 B/D or 292 million barrels per year) is priced $2/B below the price of Alaska oil sold on the gulf coast and $4.50/B below comparable delivered Saudi Light prices. In addition, California crude prices are also depressed by Alaska oil prices. California crude production amounts to 400 million barrels per year.

With exports, downward pressure on price would be reduced. The west coast discount which has been estimated at $1 to $2 per barrel would be eliminated. Therefore, Alaska oil exports would result in price increases on the west coast of between $.6 and $1.0 billion per year.

In summation we estimate that Alaska oil exports will raise consumer petroleum costs by $1.2 to $2.0 billion per year. A statistical tabulation of oil prices over the 1981-83 period is shown below:

First, it is a matter of record that since crude oil decontrol in early 1981 the average price of Alaska crude oil delivered to U.S. refineries has been appreciably below the average landed price of imported crude and the landed price of Saudi Light priced at the official sales price (OSP).

AVERAGE DELIVERED PRICE OF ALASKA CRUDE OIL TO WEST COAST REFINERIES

[Dollars per barrel]

	1981	1982	1983
January	$33.16	$29.60	$26.75
February	33.93	28.63	25.46
March	33.94	27.00	25.21
April	33.79	27.00	25.01
May	32.24	27.43	
June	31.86	28.54	
July	31.42	28.43	
August	31.12	28.27	
September	30.07	28.17	
October	30.15	27.72	
November	30.37	28.09	
December	29.92	27.42	

AVERAGE DELIVERED PRICE OF ALASKA CRUDE OIL TO GULF AND EAST COAST REFINERIES

[Dollars per barrel]

	1981	1982	1983
January	$35.97	$29.18	$28.32
February	36.93	28.38	27.49
March	35.82	28.50	27.30
April	34.79	28.50	27.10
May	33.43	29.09	
June	33.02	30.29	
July	32.83	30.29	
August	32.25	30.31	
September	32.27	30.63	
October	32.21	30.56	
November	32.33	30.03	
December	32.30	29.36	

A comparison of average refiner crude oil prices is shown below and it is observed that after early 1981 the relationship between Saudi Light and Alaska North Slope (ANS) prices changed appreciably. The quality differences in the two crudes would justify ANS crude selling for $0.60/B below Saudi Light, not the $4 to $8 per barrel difference observed over the 1981 to April 1983 period.

[Dollars per barrel]

	ANS [1]	Average [2] imported	Saudi [3] light OSP
1981:			
January	$34.57	$38.85	$33.50
February	35.43	39.00	33.50
March	34.88	38.31	33.50
April	34.29	38.41	33.50

	ANS [1]	Average [2] imported	Saudi [3] light OSP
May	32.83	37.84	33.50
June	32.44	37.03	33.50
July	32.13	36.58	33.50
August	31.69	35.82	33.50
September	31.17	35.44	33.50
October	31.18	35.43	35.50
November	31.35	36.21	35.50
December	31.11	35.95	35.50
1982:			
January	29.39	35.54	35.50
February	28.50	35.48	35.50
March	27.75	34.07	35.50
April	27.75	32.82	35.50
May	28.26	32.78	35.50
June	29.41	33.79	35.50
July	29.36	33.44	35.50
August	29.29	32.95	35.50
September	29.40	33.03	35.50
October	29.04	33.28	35.50
November	29.06	33.09	35.50
December	28.39	32.85	35.50
1983:			
January	27.54	31.40	35.50
February	26.48	30.76	31.50
March	26.26	28.43	30.50
April	26.06	27.95	30.50

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[1] ANS, assumes 50/50 distribution of sales on west and gulf coasts. Information obtained from the Petroleum Revenue Department, State of Alaska.

[2] Form EIA-14 "Refiners Monthly Cost Report".

[3] Saudi light OSP + $1.50/B tanker charge.

MR. GOLDSTEIN'S RESPONSES TO ADDITIONAL QUESTIONS SUBMITTED FOR THE RECORD

Question 1. Competition and U.S.-flag wage rates: Some witnesses before the Committee contended that the Jones Act Fleet does not provide its customers with the benefits of vigorous competition. They argue that wage rates prevailing in this Fleet bear out their contention. (They also provided the subcommittee with the attached tables on maritime wage rates.) We want to afford you a chance to respond to these arguments. Accordingly, we ask that you answer the following questions, and make other observations as you see fit.

(a) Are the attached wage rate tables accurate? If not, please provide accurate data in similar detail.

(b) In industries characterized by competition, we have seen several instances lately of a change in labor-management relations. Competitive pressures have forced some firms to cease their previous practice of accepting high wage demands and passing increased costs on to their customers. Instead, these firms have driven hard bargains with their workers to restore profitability. This behavior is clear evidence of vigorous competition. How much similar evidence of vigorous competition can we observe in the labor-management wage negotiations of the Jones Act tanker fleet?

(c) You stated that tankers under 100,000 tons cannot be operated profitably at current rates. Would these tankers be profitable if U.S. sailors were paid the wages that other OECD countries pay their sailors? Please provide data to support your answer.

REPRESENTATIVE MERCHANT SAILOR WAGES: UNITED STATES VERSUS OTHER DEVELOPED COUNTRIES

Billet	U.S. Sailor's [1]			OECD Sailors	
	Wages and fringes for 6 mo. work [2]	Approximate percent U.S. subsidy	Total billet cost [3]	Wages and fringes for 6 mo. work [4]	Total billet cost
Master	$119,000	0.60	$269,150	$43,925	$87,850
Chief mate	71,050	.62	157,850	26,325	48,650
1st mate				21,000	42,000
2d mate	60,550	.65	126,700	17,500	35,000
3d mate	54,600		114,100		
Radio officer	41,300	.65	138,600	18,550	37,100
Purser	34,650		69,300		
Bosun	32,200	.46	64,050		31,500
Deck maintenance	25,900		51,450	15,750	30,450
Able bodied seaman	23,450	.32	47,300	15,225	24,850
Ordinary seaman	19,250	.33	39,000	12,425	
Chief engineer	109,550	.66	255,500	34,300	68,600
1st engineer	77,000	.65	171,150	23,625	47,250
2d engineer	65,800	.63	137,550	20,300	40,600
3d engineer	63,00	.68	139,300	16,975	33,950
3d engineer	58,800	.65	123,900		
Assistant engineer				17,325	34,650
Assistant engineer				16,800	33,600
Electrician	33,600	.31	67,200	21,875	43,750
2d electrician	32,200		64,050		
Deck/engine mechanic	28,700		57,200		
Boiler tender				15,925	31,850
Motorman				15,575	31,150
Wiper	22,400	.41	44,800	12,250	24,500
Chief steward	32,200	.30	64,050	21,350	42,700
Chief cook	26,950	.41	53,900	14,700	29,400
Cook/baker	26,250		52,150		
Mess/utility	19,250		38,900		
Stewardess				12,600	24,200
Stewardess				12,075	24,150
Stewardess				11,550	23,100

[1] These columns refer to wages on U.S.-flag ships explicitly subsidized by the Federal Government, but are illustrative of wages on implicitly subsidized Jones Act vessels.

[2] Most U.S. crew members work 6 mo. per year.

[3] In addition to wages and fringe benefits, the estimates include crew travel, relief personnel, and employer taxes.

[4] Uses weighted OECD average vacation of 102 days per year.

ARCO'S APPROXIMATE MARINE EXPENSE BREAKDOWN

	Valdez-Panama	Panama-Houston	Valdez-Los Angeles	
Ship size (MDWT)	(189)	(50)	(120)	(189)
U.S.-FLAG				
Revenue components:				
Labor	$.25/B	$.50/B	$.15/B	$.10/B
Fuel	.45	.50	.25	.20
Maintenance	.05	.05	.05	.05
S/L depreciation	.15	.15	.05	.05
Other	.15	.25	.10	.10
Profit before tax	.90	.90	.50	.50
Total	1.95	2.35	1.10	1.00

Answer. (a) Let us clarify the relationship between competition and resource cost. The arguments you mention do not address the central issue and have not grasped the relationship between competition and wage rates.

Wage rates on liner vessels are (and in a modern industrial society should be) generally illustrative of union wages on Jones Act tankers.

These wages rates probably differ from non-union maritime wages which apply to more than 40 percent of the Jones Act tankers.

That maritime and other American wages are higher than most foreign wages is an obvious fact which is not in dispute here. We are discussing the character of competition between tanker firms in the Jones Act, not differences in the resource cost of totally different markets. By analogy, the fact that wages of Korean construction workers are substantially lower than Americans does not indicate lessened competition between American home builders in Southern New England.

The "customers" of the Jones Act tanker firms are the buyers of tanker services, the ship users, which themselves own or control 60 percent of the fleet capacity. They certainly derive the benefits of vigorous competition since most "sellers" are unable to earn a profit and many cannot recover full cost.

(b) There is evidence of change in labor-management relations. To secure business for their workers competing unions have been offering increasingly favorable working conditions both in reduced wages and lower manning scales. In recent agreement long established seagoing unions have agreed to wage increase deferrals in recognition of the intense competition from non-contracted operators.

(c) No. In a competitive market profitability is not affected.

A uniform reduction in resource cost would cause a corresponding reduction in marginal costs. Therefore, prices would fall to that lower level.

Finally, the suggestion that coastwise shipping is subsidized is entirely erroneous. It receives no payments from the government and pays the full cost of American construction and American operation. To claim that the American wage differential and American social costs represent an implicit subsidy presents the novel result that the preponderance of U.S. workers are subsidized.

Question 2. Profitability of the Jones Act trade: In your testimony, you attach the "major misconception . . . that oil transportation rates in the Jones Act trade are 'lucrative'" and state that "all independent tankers under 100,000 tons are unprofitable" due in part to new vessel construction. We appreciate your bringing these points to our attention since they are relevant in estimating the economic consequences of exports. However, such estimation requires additional information.

(a) If participation in the Jones Act trade is not profitable; why have new vessels been built to enter the trade?

(b) In 1981, ARCO provided the accompanying breakdown of tanker rates to the Department of Transportation. Before-tax profits of 41 percent to 50 percent per barrel appear lucrative.

Is this appearance misleading, or were tanker rates lucrative a few years ago?

Does the ARCO data accurately portray tanker expenses then and now, even if profit levels have changed? If it does not, or if independent tankers' expenses differ substantially, please provide accurate data in a similar table.

(c) Please provide a table similar to ARCO's showing the current breakdown of maritime expenses for tankers over 100,000 tons. (Information on tankers' earnings before tax with exports banned will help us estimate the budgetary consequences of permitting exports.)

Answer. (a) The construction of tankers requires a long period of gestation between contract signing and delivery (about 3 to 4 years). It is not unusual for market conditions to have changed materially during the period of construction. For another clear analogy, one can point to the nuclear power industry.

Through the mechanism of cyclical change, the industry gradually renews itself. During periods of profitability new capacity is ordered and, when a surplus of tonnage is generated, older tonnage is scrapped and remaining supply is brought into balance with demand. Under existing conditions and given the uncertainty generated by Federal policy makers, no new tanker orders have been placed for 2 years.

(b) We cannot account for these figures. Freight rates for tankers on charter in 1981 were not consistent with the profit figures mentioned in the table. In my best judgment, at this time the independent tanker owners earn, at best, 1 or 2 percent before tax on their multi-billion dollar gross investment.

I suggest that you contact ARCO for comparable statistics. There are differences in the accounting systems and approaches of oil companies and independent owners. For example, there appears to be no provision in the ARCO tables for interest or insurance expense, both of which are significant. Without knowing the capital costs, wage scales and crew sizes, and the content of "other" expenses, it is not possible to review the tanker expenses of the ARCO vessels.

(c) Such information is not made available by individual shipowners for competitive reasons and at the request of charterers. In any event most of this fleet is owned directly or controlled under lifetime charter by the ANS producers. Moreover, it is not possible to generalize about the relatively few independent tankers over 100,000 tons, since they range in size from 115,000 to 225,000 tons and were chartered at different times and under changing market conditions by different owners.

The Maritime Administration would be a good source for such information.

Question 3. Taxpayer vs. shipowner risk in the Jones Act trade: In your testimony, you stated that your firm's tankers were purchased "at risk," and defined that term to mean "without charters." Your statement prompts three questions.

(a) How much of the $400 million original cost of these ships was originally covered by the Title XI Ship Loan guarantee program?

(b) What amount of guaranteed loans, if any, remains outstanding?

(c) To the extent that part of this cost was then or is now covered by a federally guaranteed loan, some would argue that your firms purchases were made "at risk" to the taxpayer. Please comment on the accuracy of such an argument.

Answer. (a) The gross capitalized cost of the 15 domestic tankers in the Overseas Shipholding Group, Inc. fleet is about $410 million. Of this amount approximately $240 million was insured under the Title XI program.

(b) About $135 million is now outstanding.

(c) The argument is inaccurate. Your question concerning risk suggests that when a ship mortgage bears a MARAD guarantee, it is the "taxpayer" who is really at risk. However, the owners would sacrifice all of their equity, the residual value of their vessels and any reserve funds established to protect MARAD if they should default. It may be of interest to note that the government is paid substantial premiums for its guarantee of Title XI mortgages which, over the decade, have been more than sufficient to pay for the entire administrative cost of the program and to cover the limited number of tanker Federal risk would occur only after the failure of individual tanker companies.

DR. COOPER'S RESPONSES TO ADDITIONAL QUESTIONS SUBMITTED FOR THE RECORD

Question 1. Consumer benefits, Gulf Coast product prices and the "Empirical Record": According to your testimony, the "empirical record" shows that Gulf Coast consumers pay lower product prices than they would otherwise pay, as a result of the exports ban. However, neither your testimony nor the CECA study of this issue present any empirical evidence regarding product prices. Instead, the study estimates that Alaskan crude sells for $1.75 to $3.50/barrel less than comparable quality imports, and assumes that refiners and distributors pass 100 percent of these savings on to the consumer in the form of lower product prices.

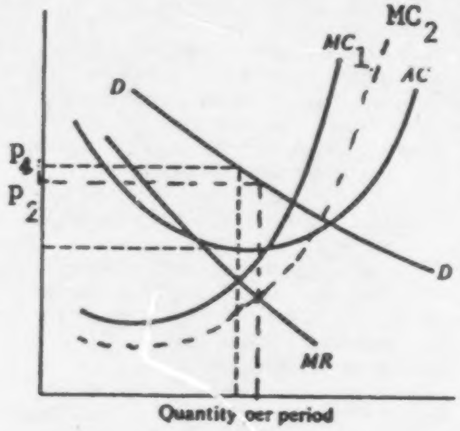
(a) Please provide the Committee with the "empirical record" of product prices which supports this assumption.

(b) Other witnesses disputed your assumption. They point out that Gulf Coast refiners using Alaskan crude compete with Gulf Coast refiners using imported crude. They say that refiners who import would not do so unless domestic product prices covered the costs of buying imported crude, refining it, and distributing its products. Therefore, they say, product prices reflect the cost of imported crude. In such circumstances, they contend that refiners who obtained Alaskan crude for $1.75 to $3.05/bbl less would keep these savings for increased profit, and not pass them downstream. This argument seems intuitively plausible; please demonstrate how the empirical record disproves it.

Answer. First, it should be noted that the notion that differences in refiner acquisition cost can be reflected in product prices is not entirely radical. In fact, the Department of Energy, in testimony before the Subcommittee, argued that prices of heavy product on the West Coast reflected discounts of 3 or 4 percent. Such discounts are exactly of the order of magnitude ($1 per barrel) we used in our estimate of consumer price benefits. We have simply extended this principle to all products for the following reasons.

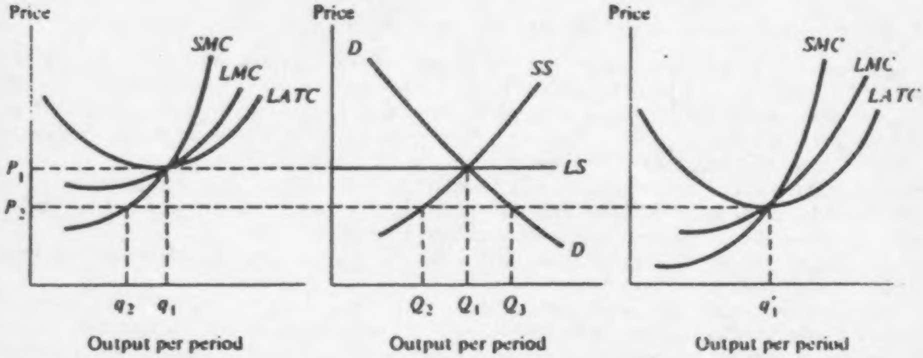
It should be noted that once price differences are observed at the level of refiner acquisition costs, one must assume a complete absence of competition in order for there to be no or little consumer price reduction. Simple incidence analysis tells us that only a monopolist could capture all the economic rents of such a cost difference (see Figure 1 a and b). The greater the extent of competition, the greater the pass through to consumers will be.

FIGURE 1(a).—The effects of cost reduction on consumer prices under conditions of monopoly or oligopoly (assuming an increasing cost industry).


MC_2
MC_1
AC
D
P_4
P_2
D
MR
Quantity per period

The absence of competition enables the monopolist or the oligopolists to capture the bulk of the price savings since the marginal revenue curve will be steeper than the demand curve at all points.

FIGURE 1(b).—The effects of cost reduction on consumer prices under conditions of perfect competition (assuming an increasing cost industry).


Price
SMC
LMC
LATC
P_1
P_2
q_2
q_1
Output per period
Price
D
SS
LS
D
Q_2
Q_1
Q_3
Output per period
Price
SMC
LMC
LATC
q_1'
Output per period

(a) High-cost firm

(b) The market

(c) Low-cost firm

With the entry of new low-cost firms, market price will be forced down to P_2. At this price, O_3 is demanded in the market. Since the high-cost firms are stuck in the industry, they will continue to produce; their total output will be O_2. The remaining output ($O_3 - O_2$) will be supplied by the low-cost firms. In the very long run, all firms will adopt the low-cost

Source: Adapted from Walter Nicholson, "Intermediate Microeconomics and Its Applications" (The Dryden Press: Hinsdale, Illinois, 1975) p. 291 for monopoly and p. 278 for perfect competition.

Indeed, the market based pricing theory utilized by the proponents of exports is a theory in which competition at the pump plays no role. We find it ironic that the proponents of a free market in oil cling to a theory in which the forces of competition are completely unable to affect prices at the pump.

Our analysis is based on a theory in which competition is an important force in precisely the two markets in which competition has traditionally been most prevalent, the West and Gulf Coasts. Once one demonstrates a price difference at the level of refiner acquistion costs, and we stress the fact that no one has disputed or refuted that such a difference exists for Alaskan oil on the West and Gulf Coasts, one must conclude that there is a consumer price benefit if competition exists.

The available evidence on the incidence of price differences in petroleum products has generally shown that the pass throughs to consumers are quite high—in the neighborhood of 50 percent. This was true of price controls in the 1970's and energy taxes in the 1980's. For example, Joseph Kalt, in the Economics and Politics of Oil Price Regulation: Federal Policy in the Post Embargo Era (Cambridge, Mass.: MIT Press, 1981), Chapter 4, shows long-term pass throughs of benefits from controls of between 20 and 60 percent. Kenneth Arrow and Joseph Kalt, in Petroleum Price Regulation: Should We Decontrol? (Washington, D.C.: American Enterprise Institute, 1979), assumed a 90 percent pass through of benefits from controls. Recent analyses of oil import fees have assumed that producers would be forced to absorb between one-half and one-third of the incidence of the fee. This suggests that they must share any benefits of prices differences due to market forces (see, for example, Larry Kumins, Background on Oil Import Fee Proposals: Some Policy and Economic Considerations (Congressional Research Service, April 7, 1982) and Bernard A. Gelb and Emmerson W. Hull, Revenue and Macroeconomic Impacts of an Oil Import Tax: A Brief Review (Congressional Research Service, April 6, 1982).

The reason we have chosen to conduct the analysis at the level of refiner acquisition cost is simply that the price differences we would expect to see at the pump are fairly small (a few cents per gallon) and the data at the level of pump prices is very aggregate. However, our estimates of the magnitude of the consumer benefit have always stated a range of values and have tended to be conservative. It is consistent with the midpoint of the incidence estimates cited above (a 50 percent pass through). This allows for the fact that the data necessary to establish the exact magnitude of the consumer price at the pump is unavailable.

The 100 percent pass through in the Gulf Coast referred to in the question posed by the Subcommittee applies to only the Alaskan crude. This is actually a conservative estimate because we have not estimated the downward pressure that this low priced crude must place on other crude prices in the Gulf Coast. Since Alaskan crude has come to equal a quantity of oil that is almost 20 percent of the product supplied in the Gulf Coast region, this downward pressure on prices could be quite large. Similarly, when we estimated the size of the West Coast consumer benefit, we were quite conservative in the sense that we did not use the full Alaska price differential plus a residual impact on the price of other West Coast crudes. Rather, we used estimates of the general West Coast discount and stuck to the lower ranges.

The empirical reality of differences in refiner acquisition costs; the empirically based incidence analysis which strongly suggests that significant parts of cost differences are passed through to consumers; and a well grounded theory that recognizes that competitive forces play a role in a number of regional markets underlie our assertion that there are consumer price benefits flowing from the current provisions on Alaskan oil. The proponents of exports have never demonstrated that the observed differences in refiner acquisition costs are not passed through to consumers in some measure and they have occassionally admitted that at least some passthroughs take place. Thus, we believe that our explanation of consumer price benefits and our cautious approach to estimating the size of those benefits fits the empirical reality much better than the argument of the proponents of exports. Ours is an infinitely superior basis for policymaking than an argument which has never empirically been demonstrated at any level of pricing (wellhead, refiner acquisition cost or the pump) and relies on a perverse theory that denies the existence of basic empirical facts in an effort to deny the existence of those consumer benefits.

Finally, in spite of the fact that we believe the available data at a city-by-city or company-by-company level is inadequate because of aggregation and other data collection problems, we have monitored that data. The attached technical memorandum shows overwhelmingly that our theory of the product price mechanism is much better substantiated than the "one-price, no competition" theory put forward by the proponents of exports.

Technical memorandum: The Oil Product Price Mechanism: An Analytic Response to Critics of the Consumer Price Benefits of Current Restrictions on Alaskan Oil Exports

BACKGROUND

One of the central reasons for our opposition to Alaskan oil exports is the fact that we project significant consumer price increases as a result of exports. At the level of refiner acquisition cost of crude on the West Coast, we have demonstrated that over the past 27 months Alaskan oil has sold at about $5/bbl below the price of imports and, on the Gulf Coast, at $3/bbl below the cost of imports. That was the case in April 1982 (See Table 1). Convinced that these differences are far above anything that crude oil quality differences could explain, we argue that to remove Alaskan oil from the U.S. market and replace it with imports would result in substantial price increases.

TABLE 1.—ALASKA CRUDE PRICES COMPARED TO IMPORTS AND SAUDI PRICES

	Alaska crude prices [1]		Average [2] imported	Saudi [3] light OSP
	West coast	Gulf coast		
1981				
January	$33.16	$35.97	$38.85/B	$33.50/B
February	33.93	36.93	39.00	33.50
March	33.94	35.82	38.31	33.59
April	33.79	34.79	38.41	33.50
May	32.24	33.43	37.84	33.50
June	31.86	33.02	37.03	33.50
July	31.42	32.83	36.58	33.50
August	31.12	32.25	35.82	33.50
September	30.07	32.27	35.44	33.50
October	30.15	32.21	35.43	35.50
November	30.32	32.33	36.21	35.50
December	29.96	32.30	35.95	35.50
1982				
January	29.60	30.99	35.54	35.50
February	28.63	29.18	35.48	35.50
March	27.00	28.38	34.07	35.50
April	27.00	28.50	32.82	35.50
May	27.43	29.09	32.78	35.50
June	28.54	30.29	33.79	35.50
July	28.43	30.29	33.44	35.50
August	28.27	30.31	32.95	35.50
September	28.17	30.63	33.03	35.50
October	27.72	30.56	33.28	35.50
November	28.09	30.03	33.09	35.50
December	27.42	29.36	32.85	35.50
1983				
January (estimate)	27.18	29.00	31.40	35.50
February (estimate)	26.20	28.00	30.76	31.50
March (estimate)	25.00	27.00	28.43	30.50
April (estimate)	25.01	27.10	27.95	30.50

[1] Alaska State Petroleum Renew Department.
[2] Form EIA-14 "Refiners Monthly Cost Report".
[3] Saudi Light OSP +$1.50/B tanker change.

We have buttressed this empirical discussion with an analytic framework to explain the price difference between domestic and imported crude. We maintain that the world oil market is composed of distinct regional submarkets which are distinguished by regionally specific supply/demand balances, logistical characteristics, product/crude streams, and levels of competition. From this point of view, it is important to recognize that the United States is the largest regional market as well as the largest consumer and producer of oil in the non-communist world, and that the two subregional markets in which Alaskan oil plays an important role (the West Coast and the Gulf Coast) account for about 70 percent of all domestic production and 50 percent of domestic consumption. Because we believe that regional supply/demand balances, levels of competition, etc., do affect prices, we are convinced that Alaskan oil contributes significantly to a favorable supply/demand balance that exerts downward pressure on prices in those two markets.

We do not maintain that the domestic oil market is perfectly competitive, but we do believe certain areas in the United States are more competitive than the world oil system as a whole. Moreover, since the United States is the largest submarket in a soft world market, we believe that competitive pressures would be felt most in the United States, especially in those subregional markets where supply and demand are configured to put downward pressure on prices. To the extent that these forces operate in the United States better than elsewhere, American consumers have benefited.

This view has been attacked by two sets of proponents of Alaskan oil exports. Conservative economists both within and outside the Reagan Administration have maintained that world oil prices are uniform as set by Saudi Arabia. Therefore, they argue, forcing Alaskan oil to flow only within the domestic system, as current policy does, can have no benefit to consumers. The second group of proponents of Alaskan oil exports who challenged our consumer benefit argument is made up of independent marketers of petroleum products. They argue that any price differences one might observe at the level of refiner acquisition costs are not generally passed through to consumers. Further, they argue that, of late, Atlantic Richfield Company (ARCO), which owns a large share of Alaskan oil, has been manipulating the price of Alaskan oil through various transfer pricing mechanisms. They maintain that ARCO has pulled the price down on the West Coast in order to capture a much larger share of specific markets away from independent marketers. Therefore, the price break that consumers are receiving will only be temporary.

Because the consumer benefit of Alaskan oil is an important reason not to export it, as explicitly stated in the Export Administration Act, we believe it is critically important to erase doubts about the impact of Alaskan exports on prices. The following analysis, which examines prices at the pump, shows that the observed pattern of prices is directly contradictory to the uniform price argument put forward by conservative economists. The transfer price explanation is largely indistinguishable from our argument primarily because it, like ours, relies on local competition to explain prices. In both versions, it is clear that the current and increasing surplus of supply in specific markets, as well as competition for market shares in a weak market, are putting downward pressure on prices. The difference is that, to account for lower current prices, the transfer price argument blames the unfair practices of specific firms, while we see a large overhang in the market driving prices down.

THE COMPETING EXPLANATIONS

The conservative economists, in order to be consistent with their market-oriented philosophy, argue that the price of oil is set by the marginal barrel which comes out of the ground in Saudi Arabia. All oil prices in the world can then be calculated by adjusting for quality differences and adding transportation costs. In essence, they say, prices move from east to west. This explanation refuses to examine the state of competition or the impact of supply/demand balances in specific markets since, if one begins to ask how markets actually function, one exhibits a lack of faith in market forces. It would also lead to embarrassing questions about how the world oil market works. If the Saudi price is political, other prices would be thrown off.

This east to west pricing theory, which was the dominant explanation for pricing patterns in the 1970's, overlooks the remarkable changes that have taken place in the pattern of world oil flows. It neglects the persistent disagreement within OPEC about what the right price is (such political debates are unthinkable). It neglects the fact that Saudi Arabia maintained a much higher price than other OPEC members for 2 years. With respect to the United States, it pays no attention to the fact that, beginning in early 1982, Saudi Arabian production levels fell below the level of production in the Gulf and West Coast regions (PADS III and V) and that exports of Saudi crude and product into the United States fell well below the level of Alaskan oil moving into the Gulf Coast. In fact, in January 1983, almost three times as much Alaskan oil entered the Gulf Coast region as Saudi imports entered the entire United States.

In the tight market of the 1970's, with Saudi production in the 10 million barrel per day range, it was certainly plausible that as the marginal supplier they could set price. But in the weak market of the 1980's with Saudi production plummeting to the 4 million barrel per day level in a desperate effort to hold the line on prices, the argument that they set the price becomes much less convincing. The OPEC price was blatantly uneconomic, responding to the political dictates of the member states, much more than the supply/demand balances in the world market.

As a result of that uneconomic price, OPEC oil and Saudi oil in particular have been driven out of the Gulf and West Coast markets. The remaining imports of OPEC oil on the West Coast occur only to keep refineries running that would otherwise be forced to shut down since the quality of crude they must handle is only available outside of the United States. There is no price setting effect and, indeed, these importers of Indonesian crude are taking a bath by paying the OPEC price, but only to avoid the bigger bath of having to shut down.

In the Gulf Coast there has been a dramatic decline in OPEC imports. The Saudi share of total crude and product flowing on the Gulf Coast declined from about 12 percent in January 1981 to about 1 percent in the first quarter of this year. The OPEC share of the oil flowing in the Gulf Coast has fallen from 27 percent in January 1981 to about 7 percent in the first quarter of this year. In contrast, Alaskan oil flowing in the Gulf Coast rose from 3.6 percent of the total to about 11 percent in the first quarter of 1983. Two years ago, 7 times as much OPEC oil as Alaskan oil entered the Gulf Coast. Today between 1.5 to 2 times as much Alaskan oil enters the Gulf Coast.

Nevertheless, the proponents of exports adhere to the Saudi price-setting view. Their theory predicts that prices in all markets should be roughly equal since they are equidistant from Saudi Arabia. At most, one might expect East Coast prices to be one or two cents per gallon higher than Saudi prices if one takes cost-of-living and product transportation differences into account (much of the East Coast product is refined elsewhere, adding additional transportation costs).

In contrast, our argument, given current conditions, is tantamount to a west to east explanation. Because markets are soft and there are surpluses in PAD V (the West Coast) and PAD III (the Gulf Coast), we believe prices in those PADs should be below those in PAD I (the East Coast), which imports a great deal of oil directly as crude and indirectly as product. The presence of large quantities of oil in PADs III and V has traditionally created more competition in those regions. The recent and continuing presence of surpluses creates even greater downward pressure on prices. To put the matter simply, PAD I is an import market, largely an extension of the world market, whereas PADs III and V are export markets, cleared by local production and driven by local supply/demand balances. Our resulting price predictions would be the opposite of predictions made by the uniform price argument, particularly with respect to the East Coast/West Coast comparison.

Table 2 shows the product and crude characteristics of these three markets in 1981 and 1982. In 1981, the East Coast received about 44 percent of its petroleum products as direct imports from abroad and 55 percent from the Gulf Coast. By 1982, imports of product into PAD I had declined only slightly to 40 percent.

TABLE 2.—KEY CHARACTERISTICS OF CRUDE AND PRODUCT FLOWS ON THE EAST, GULF AND WEST COASTS

	Total product finished supplied (million barrels)	Expressed as a percentage of product supplied			
		Local production	Direct imports	Movement from PAD III	Movement from PAD V
PAD I (east coast):					
1981	1,852	2	44	57	2
1982	1,742	2	42	58	1
PAD III (gulf coast):					
1981	1,115	138	80	NA	10
1982	1,042	147	70	NA	18
PAD V (west coast):					
1981	866	112	17	0	NA
1982	819	125	13	0	NA

Source: Petroleum Supply Monthly.

PAD III (the Gulf Coast) is a net exporter. In 1981, local production of crude exceeded local consumption by about 40 percent. It was also a major re-exporter of crude. Nearly half as much crude as was produced locally was imported. More than half of the product refined in PAD III was exported. Given the logistical pattern of production and consumption in the PAD, it is likely that most of the exports were foreign in origin. Therefore, it is also likely that a large part of the exports from PAD III to PAD I were foreign in origin. In 1982 excess of local production grew to about 50 percent, while imports declined sharply. By early 1983 the excess was running close to 70 percent.

PAD V was a modest exporter of crude in 1981, with local production exceeding local consumption by 12 percent. It was not a re-exporter; exports from PAD V are almost exclusively from local production. Imports into the PAD are mostly light Indonesian crude used to cut local production or keep specific refineries open. Figures for 1982-83 show much larger exports from PAD V relative to local consumption, suggesting a further weakening of that market. Crude exports from PAD V had risen by almost fifty percent, increasing to 25 percent of local demand in 1982 and over 30 percent in early 1983.

With the weakening of the oil market, the local producing regions have, therefore, felt greater downward pressure on prices—importing less and exporting larger percentages of local production.

Thus, our price predictions would differ from those of the conservative economists. We expect to see lower prices on the Gulf and West Coasts relative to the East Coast. We expect price differences to have increased over time, since local surpluses have increased, especially on the West Coast, but then to stabilize as market forces come into balance.

The independent marketer argument is more difficult to distinguish from ours. Both explanations of price patterns rely on levels of competition. The difference is that they believe prices are being driven by ARCO's transfer pricing practices. The difficulty in distinguishing the arguments arises because, where there is crude production and refining in this country, there also tends to be more competition. As one moves farther from production and refining centers, the number of competitors drops off. Integrated companies have a greater capacity to extend marketing operations when they are linked to refining or production elsewhere. Independents are less likely to compete at greater distances. Our argument is that where there is the possibility of competition at production or refining centers, the presence of larger quantities of available oil will intensify that competition. The marketers would agree.

Whether the independent marketers would agree with our interpretation of the global movement of crude prices in both the Gulf and West Coasts is unclear. As we see it, the Alaskan oil surplus to PAD V requirements represents 25 percent of local demand in PAD V and 20 percent of local demand in PAD III; it is more than an adequate overhang to stimulate greater competition in those two markets. It is clear that the ARCO problem they identify cannot be driving the entire national market, especially the Gulf Coast market. Therefore, significant relative price changes in that market are at odds with the transfer price explanation.

THE EVIDENCE: PRICES AT THE PUMP

In order to examine the various arguments about the oil price mechanism, we have examined gasoline prices at the pump, net of taxes, in 11 cities. These cities include all of the major ports in PADs I, III and V for which Consumer Price Index data on gasoline prices is available. In addition, the largest refining centers in each of the PADs are included. Using ports should minimize differences in price due to inland transport. Further, we have included several cities that are equidistant from the major refining centers in order to assess the impact of refining centers on local prices.

Table 3 shows the average price of gasoline in each city expressed as the difference per gallon from the price in Houston. The average price covering three different periods is shown. First we have calculated the average price in the 14 months between final decontrol of oil prices and the alleged beginning of ARCO's pricing policy. Next, we show the average price difference in the period between May 1981 and March 1982. This excludes the 3 months immediately following decontrol in which foreign oil prices were still rising. The very sharp increase in domestic crude prices in December ($2.00 per barrel), January ($4.00 per barrel) and February ($3.50 per barrel), was placing strong upward pressures on prices in PAD III and PAD V. By April, domestic and foreign crude prices, as well as gasoline prices, had weakened. It is then that the U.S. price began to come uncoupled from the world price. For example, in March 1981, U.S. refiner acquisition costs for domestic crude were only $1.34 less than the cost for imported crude. The difference increased to $3.00 in April and remained in the $2.25 to $3.00 range through the end of 1982. Finally, we show the average price in the 13 months since ARCO's alleged initiation of a new pricing strategy. Table 4 shows the month to month prices.

TABLE 3.—AVERAGE GASOLINE PUMP PRICES EXCLUDING TAXES, DIFFERENCES FROM HOUSTON

[Cents per gallon]

Date	PAD III		PAD V				PAD I				
	Houston	Dallas	Los Angeles	San Diego	Seattle	San Francisco	Miami	Baltimore	Philadelphia	New York	Boston
February 1981 to March 1982	0	-1.3	1.6	.4	.1	2.3	5.1	5.5	.2	2.2	2.6
May 1981 to May 1982	0	-1.4	2.2	1.3	-.2	3.1	6.6	6.7	-.1	2.6	2.5
April 1982 to April 1983	0	.1	-2.2	2.8	-5.0	3.2	15.4	12.7	-4.9	5.0	2.3

TABLE 4

	PAD V				PAD III		PAD I				
	Los Angeles	San Diego	Seattle	San Francisco	Houston	Dallas	Miami	Baltimore	Philadelphia	New York	Boston
1981											
February	-2.1	-4.7	-2.1	-1.0	0	-0.4	4.8	4.0	1.7	3.6	3.4
March	-2.9	-2.3	-2.5	-.8	0	.4	3.1	4.3	-.6	-.2	2.8
April	-1.2	-.7	-1.1	1.2	0	1.0	4.2	5.7	-.5	4.2	3.8
May	-.6	-.3	.1	-.1	0	1.0	3.5	4.3	-1.6	2.4	3.0
June	.7	.2	1.5	1.4	0	.6	2.6	4.2	-2.1	2.1	3.4
July	3.0	2.1	3.5	3.6	0	.2	4.0	5.1	1.5	2.5	5.7
August	4.3	4.2	4.1	5.1	0	-.3	4.8	5.0	2.4	3.9	7.7
September	4.5	4.1	-.4	3.9	0	-5.1	2.5	3.0	2.0	2.5	2.1
October	3.6	1.5	1.7	5.6	0	-2.7	5.5	6.1	1.1	2.1	1.6
November	3.4	1.9	1.6	4.9	0	-2.8	5.6	6.3	.8	1.8	1.2
December	2.3	.5	.4	3.2	0	-3.1	5.1	6.1	.4	1.1	.6
1982											
January	2.7	-1.9	-2.1	.6	0	-3.8	5.5	5.3	-1.8	.1	-1.2
February	1.4	-.8	-2.5	1.9	0	-2.1	7.8	7.4	-.8	1.9	.4
March	2.7	1.5	-1.1	2.9	0	-1.0	14.2	9.6	.5	3.0	1.6
April	6.9	6.0	1.6	5.5	0	-2.5	12.6	11.8	1.5	4.0	.7
May	5.2	3.1	1.0	4.1	0	-3.0	9.7	9.2	-2.1	2.0	-2.1
June	-2.9	-.9	-3.7	.8	0	-3.2	4.2	6.9	-10.2	-1.8	-4.2
July	.5	3.5	-.7	6.7	0	-.5	6.9	8.6	-8.3	.7	-1.4
August	2.1	5.4	.8	7.4	0	0	9.9	7.7	-6.9	2.1	0
September	1.4	6.4	1.4	7.4	0	1.3	12.2	9.0	-5.5	4.7	2.5
October	.2	5.1	-.8	4.2	0	1.0	13.5	9.8	-4.5	5.7	2.8
November	-2.1	4.3	-.3	5.3	0	1.7	15.0	10.7	-3.8	7.2	4.2
December	-6.5	.9	-4.1	1.0	0	1.7	15.9	11.3	-3.3	6.8	7.5
1983											
January	-6.4	.5	-5.6	-.3	0	1.3	17.0	12.1	-2.0	5.1	5.1
February	-6.9	-1.0	-10.3	-.8	0	1.0	17.8	13.9	-2.2	9.2	5.9
March	-6.2	-.2	-10.6	-.1	0	2.0	19.6	15.4	-3.3	2.8	5.3
April	-5.6	-1.1	-13.3	-1.4	0	.8	15.6	13.2	-3.5	6.1	1.5
May	-2.0	4.6	-6.8	3.1	0	1.1	15.9	12.5	-5.3	5.1	1.3

The evidence overwhelmingly supports our interpretation of the oil price mechanism. The PAD III prices are well below the prices in PAD I both before and after the date of ARCO policy change. Philadelphia, the PAD I refining center, has prices similar to Houston, but the other cities in PAD I are well above both Houston and Dallas. Baltimore and Miami were $.05 more per gallon in 1981 and early 1982; the price difference increased to $.15 and $.11, respectively, in 1982–83. In late 1982 and early 1983, the price difference was well over $.10 per gallon more. New York and Boston were above Houston and Dallas by between $.02 and $.04 per gallon throughout the period. In late 1982 and early 1983, the price differences were largest, approaching $.05 per gallon. East Coast prices were also above West Coast prices throughout the period, except in Philadelphia. The Philadelphia area is the major refining center on the East Coast and exports large quantities of oil to the remainder of PAD I. The logistics of product transport places extreme downward pressure on prices in the local area. These differences contradict the uniform price argument in two respects. East Coast prices are higher than West Coast prices, and Gulf Coast prices are much lower than East Coast prices.

West Coast prices were above Gulf Coast prices in 1981 and early 1982, but in late 1982-83 prices fell below Gulf Coast prices in Los Angeles and Seattle, the two major refining centers on the West Coast. The fact that West Coast prices moved below Gulf Coast prices and held there for seven months in 1982-83 also contradicts the uniform price argument.

At the same time, the fact that both West Coast and Gulf Coast prices move sharply below East Coast prices in the same 1982-83 period cannot be explained by the transfer pricing argument. Although the transfer pricing policy might account for some of the softening on the West Coast, it could not account for all of it, nor could it account for the sharp decline in PAD III prices. Even in May 1983, when the ARCO pricing was alleged to have ceased, the pump price differences in Los Angeles and Seattle suggest a discount, relative to Houston, of between $.85 and $2.50 per barrel. These numbers are entirely consistent with our earliest analyses (See Table 4).

Table 5 shows the critical factors we believe played a significant part in these price movements—the local surplus in PADs III and V (measured as PAD production as a percentage of product supplied) and the direct imports into PAD I (measured as a percentage of total product supplied). Note that PAD V has experienced a dramatic increase in local surplus (more than doubling from 15 to 32 percent in early 1981–early 1983) and that PAD III has experienced a similar increase. At the same time, increasing surpluses from PAD III have not backed out imports into PAD I as a percentage of product supplied.

TABLE 5

	PAD V, local surplus	PAD III, local surplus	PAD I, direct imports as percent of production
1981			
February	10	44	43
March	16	44	44
April	14	36	42
May	15	39	41
June	6	29	40
July	9	33	46
August	7	39	45
September	14	33	47
October	12	42	44
November	18	40	44
December	22	40	39
1982			
January	31	59	33
February	37	49	35
March	14	45	39
April	22	38	37
May	24	38	43
June	27	32	42
July	21	42	44
August	21	36	44
September	29	47	48
October	26	53	44
November	26	55	51
December	30	50	36
1983			
January	44	82	36
February	34	68	33
March	32	68	30
April	34	68	41

Source: Petroleum Supply Monthly.

Table 6 shows the results of a regression analysis in which local surplus in PAD V is used to predict the price of gasoline in PAD V relative to PAD III and local surplus in PAD III is used to predict the price of gasoline in PAD III relative to PAD I. This reflects our understanding of West to East pricing and the relationships are as we would expect. The larger the surplus in PAD V, the lower the price relative to PAD III. The larger the surplus in PAD III, the lower the price relative to PAD I. The correlations are strong, especially in the period after the world price weakened. Generally, this one variable explains between one-third and one-half of the difference in pump prices. Given the fact that this is a gross measure of the effects of local competition and surplus, this result is strong support for our argument.

TABLE 6.—REGRESSION RESULTS USING LOCAL SURPLUS TO PREDICT PRICE DIFFERENCES [1]

	PAD V local surplus versus PAD V				PAD III local surplus versus PAD I				
	Los Angeles	San Diego	Seattle	San Francisco	Miami	Baltimore	Philadelphia	New York	Boston
February 1981 to April 1983:									
Corr	−.5267	−.6568	−.6557	−.2477	−.7439	.6875	−.1241	.5451	.2891
Slope	−.209	−.0186	−.278	−.0687	.317	.185	−.0315	.1054	.0653
Int	4.685	1.859	4.506	4.189	−5.671	−.4878	−.4452	−1.675	−.6344
May 1981 to April 1983:									
Corr	−.6492	−.3452	−.6945	−.5983	.7504	.7027	−.0998	.5788	.4511
Slope	−.2722	−.0868	−.3133	−.1035	.3013	.1736	−0.249	.1092	.0186
Int	6.751	4.007	5.839	5.8795	−4.232	.4598	−1.009	−1.833	1.052

[1] For Los Angeles, San Diego, Seattle and San Francisco the form of the equation is: City price − Houston price = Int. + Slope (PAD V production divided PAD V product supplies.

Note.—For all other cities the form of the equation is: City price − Houston price = Int. + Slope (PAD III production divided PAD III product supplied.

In summary, our explanation, in which regional and local competition and supply/demand balances influence prices, does explain the price patterns and movements. The East Coast is higher priced because it consumes more imported oil. The Gulf and West Coast prices softened as surpluses increased on both coasts and as imports were backed out of the Gulf Coast. Moreover, these conclusions about pump prices are quite consistent with our earlier analysis. In our refiner acquisition cost argument, we estimated the potential cost of exports on the West and Gulf Coasts to be in the $1.1 to $2.1 billion dollar range. In terms of product prices at the pump, that works out to between $.014 and $.027 per gallon. Adjusting the observed price differences at the pump for cost-of-living differences (applied only to refiner and marketer margins) and for transportation costs, would explain at most $.01 to $.02 of the observable pump price difference. That would leave more than enough room for our explanation of the price mechanism to be valid at the refiner acquisition level and at the pump. Thus, regional supply/demand balances and local competition could well be the factor underlying cheaper domestic crude costs being passed through to consumers in the West and Gulf Coast regions. Removing Alaskan oil would reduce those pressures and cost consumers dearly.

Question 2. Disruptions, varying oil prices, and exports: We are aware of evidence supporting your contention that, during past supply disruptions, oil sold at widely varying prices. (In 1979, for example, some major U.S. refiners charged product prices substantially lower than overseas refiners' product prices. However, studies of these firms' behavior suggest that it was motivated by fear of Congress and the anti-oil industry legislation it might pass.) However, we don't see how this fact argues against Alaskan exports. Suppose a disruption occurs and Exxon and Sohio's Gulf Coast refineries have to pay $50 more per barrel to import foreign crude. In this situation, why won't these firms' Alaskan producing arms charge $50/barrel more to the Japanese? Won't the fear of Congressional reaction which inhibited domestic product price increases serve to encourage export price increases?

Answer 2. Disruptions, varying oil prices and exports: It is precisely the process of raising prices here and there and moving oil from here to there that we are concerned about. Price does not just jump up uniformly overnight. Contracts are broken or renegotiated. Some markets become very tight, while others remain slack and inventories mount. We are concerned that American consumers would be forced to bear the brunt of price increases because (1) the Japanese will pressure the companies and/or the U.S. Government not to let their prices rise to spot market levels and (2) supplies will be short on the East Coast because the flow of oil is interrupted (through hoarding, diversion of supplies, etc.) and the capacity to move West Coast oil to the East will be restricted by the fallowing of the oil transportation infrastructure.

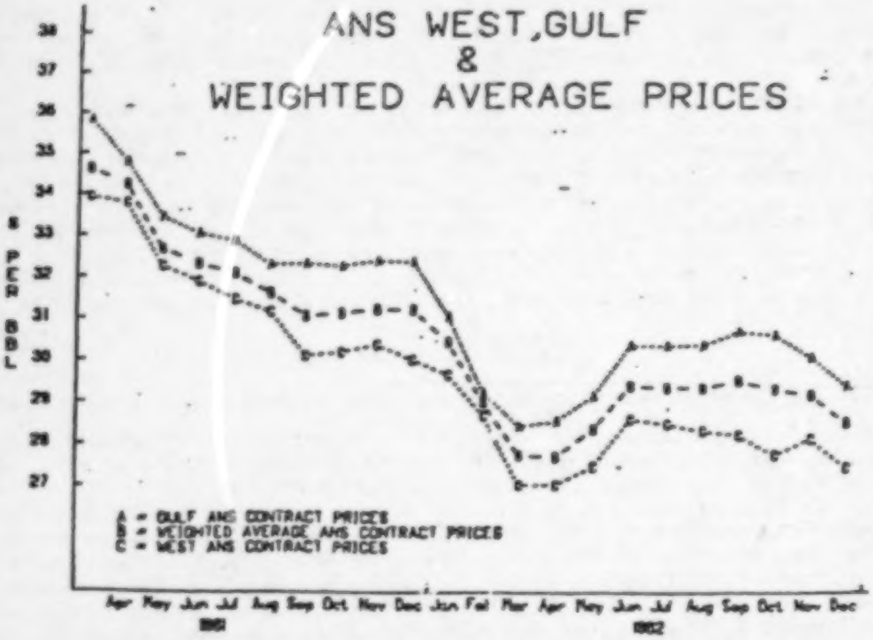
The evidence suggests that prices do not mount evenly nor does oil flow evenly. Prices rise chaotically and oil chases the highest price (see, for example, Ed Krapels, Pricing Petroleum Products, New York: McGraw Hill, 1982). There are very high costs that can be imposed if you are on the wrong side of these transactions and movements, and, frankly, we are convinced that the interest of American consumers would not be well situated with respect to oil movement or price changes if Alaskan oil is flowing to Japan and a moderate supply interruption occurs. During the past shocks, oil movements were to the detriment of American consumers and the American economy fared worse than others. These outcomes are described at length in our earlier report.

MR. HOYLER'S RESPONSE TO AN ADDITIONAL QUESTION SUBMITTED FOR THE RECORD

Question. Your testimony regarding the "West Coast discount" differed from that of other witnesses. Please explain why you disagree with others' analysis of this issue. How do these disagreements affect the case for exports?

Answer. I disagree with parts of the Putnam Hayes and Bartlett (PHB) analysis, which Dr. Hogan provided the committee. I also disagree with parts of the argument made by the Consumer Energy Council of America (CECA) about the West Coast discount. Dr. Cooper presented the CECA argument. The PHB discussion of the West Coast discount does not sharply distinguish a crude discount from a product discount. PHB states, first, that ANS crude is not discounted and, second, that product derived from ANS crude is not discounted, on the West Coast.

Data provided by Alaska's Petroleum Revenue Department helps assess the validity of PHB's first statement. In the figure below, "Gulf ANS Contract Prices" record Alaskan crude sales on the U.S. Gulf Coast, the U.S. East Coast, and the U.S. Virgin Islands. These prices are substantially higher than those of Alaskan crude sold on the U.S. West Coast. Given PHB's assumptions (i.e., (1) the world crude price in any market equals the quality-adjusted Persian Gulf crude price plus transport to that market and (2) Persian Gulf-Gulf Coast transport cost equals Persian Gulf-U.S. West Coast transport cost) Gulf ANS contract prices should equal West Coast ANS contract prices since, according to PHB, there is no West Coast crude discount. However, this figure shows that 1981-1982 ANS crude prices were discounted below world market levels on the West Coast. More recent data demonstrate the same thing about 1983 prices. According to this information, PHB's assertion regarding West Coast Alaskan crude prices is factually incorrect.



PHB's second statement is substantially accurate, in my view. I believe the issue of a West Coast product discount to be more complicated than PHB's analysis suggest, however. Accordingly, I make a few observations below which can be fairly interpreted as a statement, in layman's language, of my "working hypothesis" on the issue.

At the outset, it is fair to note that data presented to Congress last spring did show ARCO selling product at a discount. However, as I said in my oral testimony, it is not clear that such discounts result simply from the export ban. In my view, they do not; tax policy and corporate strategy also play a role.

Currently, the West Coast refining industry is not optimized for converting relatively heavy and sulfurous Alaskan crude (and other West Coast crude) into the relatively light slate of products desired by West Coast consumers. As a result, West Coast firms import some relatively light Indonesian crude. This practice virtually guarantees that the world crude price will set West Coast product prices for lighter products like gasoline. (West Coast firms who import would not do so unless West Coast light product prices covered the costs of buying imported crude, refining it, and distributing its products. Therefore, given the current refining infrastructure, light product prices reflect the cost of imported crude.) However, the ANS crude discount encourages use of ANS by refiners who are not optimized for converting it to the light products desired. These refiners can make some light products from ANS, but making all light products from it is prohibitively costly. Thus, given existing USWC refining structure, discounted ANS crude tends to produce a "glut" of heavier products (e.g., fuel oil) on the West Coast. Refiners have to discount this crude somewhat to sell it. However, analyses I'm familiar with suggest that the size of this discount is quite small.

The export ban's implications for product prices could change if refining structure changes. Here's why. If West Coast firms optimized their refineries to produce light products from relatively heavy sour crude, Alaskan and other West Coast crudes might back out imports altogether. In such a situation, Alaskan crude could become, in economists' jargon, the margin source of crude. If Alaskan crude were to sell at a discount in such a situation, we might observe a similar discount for West Coast product prices, in marked contrast to what we observe today.

The previous paragraph's argument implies that future product price discounts depend on firms' refinery investment decisions. These decisions depend partly on refiner's judgments about the likelihood of continued West Coast crude discounts, and therefore on the continued existence of a "West Coast surplus." However, it's not certain that the West Cost surplus will persist. This surplus—and discounted Alaskan crude—could disappear in the future if the government permits exports, if firms build a West-to-East crude pipeline, if a fall in world oil prices discourages Alaska/West Coast production and encourages West Coast demand, or if some combination of these events occurs. Uncertainty about these factors discourages refinery reconfiguration today, and will probably do so tomorrow. As a result, uncertainty might indefinitely postpone discounted West Coast consumer prices. In view of this prospect, I believe that permitting exports is a better way to serve consumers' interests. Thus, I agree with Dr. Hogan's conclusion that we should lift the exports ban, even though I disagree with some of the PHB analysis he cited.

Dr. Cooper's CECA study correctly notes the existence of a West Coast crude oil discount. However, the CECA study does not provide any empirical evidence that West Coast product prices are in fact discounted as a result of the exports ban. Instead, the CECA analysis simply assumes that 100 percent of crude price discounts are passed through to consumers.

I find CECA's assumption implausible. It implies that discounted Alaskan crude gives refiners an opportunity for increased profits, but that these refiners ignore this opportunity and pass 100 percent of their savings onto distributors. CECA's assumption also implies that distributors who receive discounted product ignore their opportunity for increased profits, and pass 100 percent of their savings on to consumers. Finally, CECA's assumption implies that refiners and distributors will pass on savings for light products in the absence of any competitive pressure. (Recall that imported Indonesian crude is the marginal source of West Coast crude supply. This implies that its price sets the price of light products, for reasons noted in discussing the PHB analysis. Thus, no one faces competitive pressure to undercut this price.) These implications mean that CECA's 100 percent pass-through assumption defies both economic theory and common sense: refiners and distributors are in business to make money, not to give breaks to consumers.

Economic theory and common sense are not infallible; empirical evidence sometimes proves both wrong. However, given Dr. Cooper's statement that "we have looked at the empirical record . . . and . . . are convinced that our analysis fits the facts . . ." it is incumbent upon CECA to present those facts. CECA's failure to do so hardly constitutes persuasive evidence that permitting exports will cause sharp consumer price increases on the West Coast.

The disagreements described above affect the timing and extent of exports' benefits for consumers but not exports' merits overall. The nation will enjoy net benefits from permitting exports even if West Coast consumers were to face higher prices as a result of lifting the exports ban.

As shown above, there is considerable reason to doubt CECA's assumption that 100 percent of crude oil discounts will be passed on to consumers. Even if one accepts that assumption, however, it remains true that exports provide net benefits. My statement before the committee summarized these benefits. With respect to consumer effects, though, two points deserve emphasis. First, permitting exports leads to lower consumer prices through increased production. (In fact, if permitting exports leads to the 0.6 percent decrease in crude prices that CECA calculates, nationwide consumer price decreases will be larger than the West Coast consumer price increases CECA predicts.) Second, the prediction that West Coast consumers will pay higher prices as a result of exports boils down to saying that they will pay the same price that other Americans face every day.

My disagreement with PHB does not affect the merits of the case for exports; we both agree that substantial net benefits flow from exports. However, it is important to note that this conclusion does not depend on the erroneous premise that there is no West Coast discount. Otherwise, export opponents will discredit the pro-exports case by pointing out this error.

PUTNAM, HAYES & BARTLETT, INC.,
ECONOMIC AND MANAGEMENT COUNSEL,
Cambridge, Mass., August 25, 1983.

Senator FRANK H. MURKOWSKI,
Chairman, Subcommittee on East Asian and Pacific Affairs,
Washington, D.C.

DEAR SENATOR MURKOWSKI: I write in response to your letter of 4 August 1983. I appreciate receiving the opportunity to respond to comments made by Mr. Jack Goldstein, Vice President of the Overseas Shipbuilding Group, regarding our report "The Export of Alaska Crude Oil: An Analysis of the Economic and National Security Benefits."

As you know, our report concluded that the beneficiary of the ban on exports is the U.S. maritime industry and that the losers are federal taxpayers, the State of Alaska, and the oil companies themselves. Consumers are unaffected because world oil prices would not change. National security would be enhanced by reducing Japan's dependence on Persian Gulf crude oil, hence reducing the likelihood of panic buying in the event of an oil disruption.

Furthermore, we found that it is possible to allow a partial lifting of the export ban with little or no impact on the maritime industry. The domestic maritime industry is growing older. Nearly 40 percent of the tanker tonnage is over 15 years old, and over half the workforce is above the age of 50. Natural attrition and retirement would permit the export of Alaska crude with no adverse impact on the existing maritime industry. If U.S. oil export policy were designed to protect only the existing ships and workers, it would be possible to export approximately 200,000 barrels per day in 1985, growing to over 500,000 barrels per day by 1990.

Mr. Goldstein does not refute these conclusions. In fact, he allows as how our study is "perhaps even slightly better than most." Rather, he asserts that our report has been "colored" by a lack of understanding and knowledge of the maritime industry. He cites several examples of what he considers to be factual errors which presumably call into question our conclusions. However, he never refutes the conclusions that the ban creates a costly subsidy to the maritime industry or that U.S. industry energy security and national security would be enhanced by a lifting of the ban.

The key issues include:

How much oil would be exported?

How would exports affect the martime industry?

How would exports affect national security?

HOW MUCH OIL WOULD BE EXPORTED?

The PHB report estimated that approximately 500,000 barrels per day of Alaska crude oil would be exported beginning in 1984. The estimate was based on an analysis of the relative profitability (including shipping profits) to each major producer of sending crude oil from Alaska to various destinations for refining. We concluded that Sohio would be the principal exporter because it owns none of its own vessels and has no Gulf Coast refineries.

Mr. Goldstein acknowledges that examining producer profitability is a "reasonable approach," and does not directy dispute PHB's estimate of the amount to be exported. However, he faults our analysis because "Sohio has one million tons of tanker capacity on long-term charter that are equivalent to ownership." Presumably fewer barrels would be exported.

There are problems with this statement. First, long-term charter and ownership are not equivalent. Chartered vessels do not appear as an asset on the company's balance sheet. The company's shareholders do not profit from paying for shipping rates to another company. And the details of the charter contract may provide opportunities for renegotiation. Second, 1 million deadweight tons of long-term chartered vessels (even if they were all used to carry oil to the U.S. Gulf Coast) would carry about 140,000 barrels per day, or only about 15 percent of Sohio's Prudhoe Bay production. Approximatley 85 percent of Sohio production would still be available for export. Third, PHB was attempting to be conservative by calculating the maximum amount of oil that was likely to be exported in order to estimate the maximum likely impact on the maritime industry. To the extent that Sohio uses these vessels for domestic shipments, the adverse consequences to the maritime industry are lessened, as are the costs of the export ban.

In summary, Mr. Goldstein has not disputed PHB's estimate of the amount of oil to be exported. The long-term charter issue is a diversion that, if anything, points out PHB's conservatism in its estimates of the maritime impacts.

HOW WOULD EXPORTS AFFECT THE U.S. MARITIME INDUSTRY?

The PHB report concluded that the U.S. maritime industry is an aging one that is being heavily subsidized. Employment on U.S. tankers has dropped by one-third since 1968. The average employee is 50 years old and earns $36,000 for only six months' work. Many employees earn substantially more. If the export ban were lifted and 500,000 barrels per day were exported, about 2,800 workers would be idled in 1984. However, attrition would gradually reduce this surplus of workers. By 1988 demand for tanker employees would again match supply.

Mr. Goldstein does not address this issue. He is concerned with the disproportionate impacts on independent tankers (as opposed to oil company-owned vessels), the dollar amount of the subsidy, and the age at which vessels retire.

Mr. Goldstein claims that independent tankers will be the first idled because oil companies will continue to use their own vessels for domestic shipments. This may, in fact, be the case. However, as PHB pointed out in its report, many of these tankers are old and will be retired anyway in the next few years.

Mr. Goldstein claims that PHB uses too short an estimated life for tankers in its analysis. PHB used Maritime Administration assumptions of Very Large Crude Carrier retirements between ages 10 and 15, while small tankers retire between ages 25 and 30. Furthermore, we accounted for refurbishing in adjusting the estimated age of the existing fleet. These assumptions appear to be biased in a conservative direction.

Mr. Goldstein also questions PHB's estimate of the amount of the maritime subsidy. As I described in my testimony, the $5.25 rate for shipping oil from Valdez to Houston was presented by Exxon in testimony before Congressman Dingell's Subcommittee on Oversight and Investigations on February 23, 1983 and is roughly midway between ARCO's estimate of $6.00 and Sohio's estimate of $4.40 per barrel. Again, none of our major conclusions are especially sensitive to this estimate. Furthermore, we carefully described in footnote 6 of our report how U.S. Maritime Administration cost data for fuel, wages and other operating costs (including the Panama pipeline charge) were deducted from the rate to calculate the net subsidy to the maritime industry. Our subsidy estimate includes only the transfer payments received by the maritime interest.

Finally, Mr. Goldstein highlighted a factual error in our report. The total number of vessels in the domestic tanker fleet dropped 54 percent between 1968 and 1982. We erred in stating that the U.S. tanker capacity declined by that amount. According to Mr. Goldstein, capacity actually increased over this period. However, he does not mention that this trend tends to reinforce the urgency of the need to lift the export ban. Otherwise we will continue to provide incentives to expand the fleet of ships living off the maritime subsidy. The time to act is now, and we have an opportunity to develop a phased approach that limits the market protection to the existing fleet.

HOW WOULD EXPORTS AFFECT NATIONAL SECURITY?

As I stated earlier, the PHB report concluded that U.S. national security would improve with lifting the ban because it would lessen Japan's dependence on OPEC oil, thus reducing the likelihood of panic buying in the event of an oil disruption. By improving trade with Japan, exports would strengthen the Western Alliance and therefore improve our military security.

Mr. Goldstein suggests that the Committee's hearings have ignored the fact that the Department of Defense opposes "policies that lead to the early retirement of commercial tankers." The PHB report and other witnesses have addressed the national security implications of the ban. Mr. Goldstein's comment ignores the larger question and focuses too narrow a view of the problem.

In summary, Mr. Goldstein has not addressed the major conclusions of PHB's analysis. It is clear that the United States is subsidizing the maritime industry through its ban on the export of Alaska crude oil. It is quite possible to design a plan which would allow oil to be exported without significant adverse effects on the industry. The worst mistake, however, would be to continue to build new ships and train more new maritime employees in this economically draining industry. Better to call a halt to it now, design a program which minimizes the impacts on the maritime industry and capture the benefits of a free market for the nation.

Sincerely,

WILLIAM W. HOGAN.

[Whereupon, at 5:28 p.m., the subcommittee adjourned, subject to call of the Chair.]

APPENDIX

PREPARED STATEMENT OF RAY LOPEZ, VICE PRESIDENT, SHELL REFINING AND MARKETING CO.

EXPORT OF U.S. PRODUCED CRUDE OILS

The focus on the heated public debate over whether the U.S. crude export restrictions should be lifted has centered on Alaskan crude. It is our understanding that domestic crude oil exports are restricted through the provisions of at least six Federal laws (see Attachment 1) as a result of previous concerns over U.S. energy and national security. The most significant of these, the Export Administration Act (EEA) of 1979 (which replaces an earlier 1969 version) is scheduled to expire on September 30, 1983. Amendments to extend that Act have been reported with the existing prohibition intact. Nevertheless, some Members of Congress have raised questions about the wisdom of continuing this prohibition. In addition, the recent Supreme Court decision on the legislative veto has drawn further attention to the issue. This, therefore, seems an appropriate juncture to reevaluate the advisability of retaining trade restrictions adopted under different conditions which may not meet the present and future best needs of this nation.

International aspects

The United States currently sells about 650,000 B/D of petroleum products to other countries including Japan according to the International Petroleum Encyclopedia. Japan, according to the same source, imported 87 percent of its energy needs in 1982, with imported oil accounting for 72 percent of total energy supply. Coal imports supply 11 percent of that nation's energy and imported LNG accounts for 4 percent. Three Middle East countries—Saudi Arabia, United Arab Emirates and Iran supply 70 percent of Japan's oil. The United States is obliged under the International Energy Agreement (IEA) to provide crude oil to Japan in a time of international emergency, yet there are severe restrictions on the export of U.S. produced crude oil in normal times.

The joint United States-Japanese Energy Working Group, set up by President Reagan and Japanese Prime Minister Nakasone following their January summit meeting is charged with determining the feasibility of exporting U.S. energy (oil, coal and natural gas) and importing related Japanese energy investment capital according to a State Department press release issued on July 5, 1983. Reported findings from the United States-Japanese Working Group, according to the same press release, after two meetings have clarified:

That the Japanese goal of diversifying its energy sources includes purchases of North Slope energy and reduction of reliance on OPEC sources;

That sound expansion in Japan-U.S. energy trade would help reduce U.S. trade deficit with Japan ($4.57 billion in first quarter of 1983);

That long term contracts and importation of Japanese investment capital for energy projects related to exports to the Pacific Rim would further enhance recovery of the U.S. economy and assure Japan of supply reliability.

The Pacific Rim (Japan, South Korea, Taiwan, Philippines, etc.) offers a natural economic market for that portion of the 1.6 million barrels of Alaskan oil produced each day that cannot be refined on the West Coast. By participating in this market over the next decade, the wellhead price of ANS crude will be enhanced relative to its current level which should result in additional production.

Market considerations

In a market without export restrictions, the Alaska North Slope (ANS) producers would ship their oil to the destinations which yielded the highest profit. Alaska crude transportation costs to the West Coast and the Pacific Rim are similar and substantially less than the cost to the Gulf Coast. Therefore, it would appear that the ANS producers would be indifferent as to whether their crude is shipped to either the West Coast or the Pacific Rim markets, but should prefer either one over the Gulf Coast.

If export of Alaska oil is permitted, some argue that West Coast retail gasoline prices would increase. We do not believe that the proponents of this argument can accurately forecast higher West Coast retail prices if ANS crude is exported. Their forecast is based upon assumptions that Pacific Rim consumers would bid the ANS price at Valdez up to a level higher than some West Coast refiners now pay for ANS crude, thus increasing crude costs on the West Coast. Their argument requires the further assumption that those refiners, in turn, would be able to pass through these higher crude prices to the retail marketplace. These assumptions are by no means certain to occur in the real world and we can depict plausible scenarios where the ANS crude price on the West Coast will stay the same or even go down for some refiners.

An increase is likely to occur only to the extent that ANS crude is undervalued compared to readily available internationally traded crudes like Saudi Light. If this situation exists and the West Coast refiner should see higher crude costs resulting from equilibration of ANS with other internationally traded crude, then he may attempt to pass on the increased costs, thereby increasing West Coast retail prices. However, West Coast product prices have obviously been strongly influenced by world market conditions since President Reagan suspended restrictions on products in October 1981; therefore, retail prices on the West Coast will not necessarily increase due to an equilibration (if any) of ANS crude prices with other world crudes imported by the Pacific Rim consumers.

We know from first hand export experience that this is the situation for residual fuel oil, aircraft jet fuel, and recently, diesel fuel. In this case, if a West Coast refiner has been able to acquire ANS crude at less than its world value, it may have been able to enjoy a higher refinery margin. As its ANS crude cost increases, it may have limited success in passing the increased costs into the marketplace. It is this latter theory that serves as the basis for a California Energy Commission staff report conclusion that lifting the export ban would have minimal, if any, impact on West Coast prices.

Despite our significant involvement and experience in the West Coast oil business we cannot be absolutely certain as to what would happen to West Coast prices if the crude export restrictions were lifted. The regulations arising from crude export restrictions, the Jones Act provisions and the Windfall Profit Tax have resulted in distortions of the free market process on the West Coast, according to many who have testified at Congressional hearings. Removal of crude export restrictions would help eliminate these distortions. An analysis of actual netbacks reported to the State of Alaska by major ANS producers for April, indicates that the State of Alaska could receive substantially more in increased severance, royalty, and income taxes if export restrictions were lifted and the Valdez price for all ANS crudes rose to an equilibration level with other internationally traded crudes. The U.S. Treasury could also receive additional revenues.

U.S. maritime interests

Maritime interests are the principal beneficiaries of crude export restrictions now. Oil shipped between U.S. ports is subject to the Jones Act requirement for transport in U.S. tankers. DOE studies report the transportation costs to the Gulf Coast are at least six times higher than shipment to Japan.

Because of past protective policies, free trade in oil could leave some aged and obsolete U.S. flag tankers and merchant seamen in excess supply. To the extent that these ships and workers do not have alternative uses, there could be early retirements, lay-ups and lay-offs.

Concern over these potential impacts on the U.S. maritime industry has led to proposals to extend restrictions on Alaska oil exports.

Potential impact

The potential impact of lifting the ban on crude oil exports may be summarized as follows:

Positive—

More oil may be explored for and produced in Alaska;

Federal budget deficits will be decreased as a result of increased tax collections;

The bilateral trade deficit with Japan will be reduced by the U.S. sale to them of a very important commodity, thereby inducing Tokyo to offer real quid pro quo's in return;

Energy security and foreign policy objectives are correspondingly increased by further weakening OPEC's monopolistic market power in the longer term.

Negative—

Maritime interests could be negatively impacted by loss of that portion of subsidized U.S. routes converted to international trade.

Japanese relations could be adversely affected if U.S. producers are forced to invoke force majeure contract provisions in the event of a worldwide crude shortage.

Shell position

Shell supports statutory and regulatory changes that remove remaining restrictions on the export of refined petroleum products and crude oil. As a dedicated supporter of the free trade concept, Shell favors the liberalization of export regulations to the maximum extent possible, including the lifting of restrictions prohibiting the sale of Alaskan crude oil or any other U.S. produced oil to foreign nations.

ATTACHMENT 2.—CRUDE EXPORT RESTRICTIONS

Statute	Restrictions
Minerals Lands Leasing Act of 1920 (MLLA) Section 28(u)	Crude oil transported by pipeline over rights-of-way on Federal lands granted by this section is subject to the export restrictions of the Export Administration Act (EAA) of 1969,[1] except crude which is: Exchanged in similar quantity with an adjacent foreign state for convenience or transportation efficiency; or Temporarily transported across an adjacent foreign state and re-enters the United States In addition, before any crude may be exported, the President must find that exports: will not diminish the total quantity or quality of petroleum available to the United States, are in the national interest and are in accord with the EAA of 1969.[1] Such reports must be submitted to Congress, which has 60 days to consider whether the terms are in the national interest. If Congress passes a concurrent resolution of disapproval further exports must cease.
Export Administration Act of 1979 (EAA) Section 7(a). Short Supply Controls	The President may impose controls on the export of goods to protect the domestic economy from the excessive drain of scarce resources and reduce the serious inflationary impact of foreign demand.
Section 7(d). Domestically Produced Crude Oil	Notwithstanding any other provision of the EAA or Section 28(u) of the MLLA, no domestic crude transported over rights-of-way granted by the Trans-Alaska Pipeline Authorization Act may be exported unless it: is exported to adjacent foreign countries in exchange for the same quantity to the United States, resulting through convenience or increased transportation efficiency in lower prices for U.S. consumers; or is temporarily exported across an adjacent foreign state and re-enters the United States. For any other crude exports, the President must expressly find that they: Will not diminish the total quantity or quality of petroleum refined, stored, transported to or sold within the United States; Will, within 3 months result in: (a) lower refiner acquisition costs for imported oil than the costs these refiners would pay for domestic oil in the absence of such exports; and (b) not less than 75 percent of these cost savings being reflected in wholesale and retain prices for products refined from such crude imports.

ATTACHMENT 2.—CRUDE EXPORT RESTRICTIONS—Continued

Statute	Restrictions
	Will be made only under contracts which can be terminated if U.S. crude supplies are interrupted, threatened or diminished; Are necessary to protect the national interest; and Are in accord with the EAA and the President reports such findings and Congress approves these exports within 60 days through a concurrent resolution. Exports to any country pursuant to a bilateral international oil supply agreement entered into before June 25, 1979 or as part of the IEA's Emergency Oil Sharing Plan are permitted.
Energy Policy and Conservation Act Section 103(b)	Requires the President to promulgate regulations to prohibit domestic crude oil exports. Exports otherwise prohibited may be exempted if the President finds the exemption is appropriate and consistent with the national interest and the purpose of the EPCA. Determination of the national interest must consider the need to leave uninterrupted or unimpaired: (1) Exchanges in similar quantity for convenience or increased efficiency of transportation with foreign states; (2) Temporary exports across adjacent foreign states and which reenter the United States; and (3) The historical trading relations of the United States with Canada and Mexico. Such exemptions from the mandatory restrictions must be based on a "reasonable classification or basis," such as the purpose for export, class of seller or purchaser, or country of destination.
Trans-Alaska Pipeline Authorization Act	Section 28(u) of the Mineral Lands Leasing Act applies to oil transported through the Trans-Alaska Pipeline.
Outer Continental Shelf Act Section 28	Oil and gas from the OCS are subject to the requirements of the EAA of 1969,[1] except: Any oil and gas which is exchanged in similar quantity with a foreign state for convenience or increased efficiency of transportation, is temporarily exported across an adjacent foreign state and re-enters the United States, or which is exchanged or exported pursuant to an existing international agreement. The President must find that such exports: will not increase reliance on imported oil or gas, are in the national interest and are in accord with the provisions of the EAA of 1969.[1] Congress has 60 days to consider whether such exports are in the national interest. If Congress passes a concurrent resolution of disapproval, further exports must cease.
Naval Petroleum Reserve Production Act of 1976	Petroleum produced from the Naval Petroleum Reserves is subject to the EAA of 1979 except: Petroleum exchanged in similar quantities with a foreign state for convenience or efficiency of transportation or which is temporarily transported across an adjacent foreign state and re-enters the United States. Before any petroleum subject to this law is exported, the President must find that such exports will not diminish the total quality or quantity of petroleum available to the United States, are in the national interest and in accord with the EAA of 1979.

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[1] The Minerals Lands Leasing Act and OCS Lands Act incorporate by reference the Export Administration Act (EAA) of 1969 which expired on September 30, 1979 and was replaced by the EAA of 1979. The 1979 Act was not formally substituted for the 1969 Act in these statutes so there is some question whether the reference to the 1969 Act should be taken as a reference to the terms of the 1979 Act.

PREPARED STATEMENT OF JON D. HELMS, VICE PRESIDENT, PLANNING, SUN REFINING & MARKETING CO., PHILADELPHIA, PA.

Sun Company wishes to submit the following testimony for the record. We believe that the anlaysis it contains may be of use in the committee's deliberations. This testimony is essentially the same as that previously submitted to the House Subcommittee on International Economic Policy and Trade in its hearings on this subject on April 12, 1983.

Sun is a mid-sized domestic oil company. We have no oil production in Alaska, but we purchase and refine some Alaskan crude. We also have significant shipping interests. We directly own and operate eight tankers in the Jones Act fleet, and we have interests in four others.

Our immediate interest in the question of Alaskan North Slope is economic. Our tanker fleet would be gravely affected by a removal of the export prohibitions. We estimate that the book value of our vessels would drop by about $100 million, and our after-tax revenues would drop by $67 million over the next 5 years (with our Federal tax obligation falling by some $57 million over the same period).

As a result of this interest, we have performed extensive analysis of this issue. We have reviewed several areas which have been only glossed over in other studies, and we conclude that the interests of the United States are best served by renewing that portion of the Act which prohibits ANS crude exports.

At present, ANS crude production is some 1.6 million bbl/day. Only about half of this is used on the West Coast, the remainder being transported to the U.S. gulf coast and Puerto Rico for refining. Since the sea journey from Valdez, Alaska to Japan is significantly shorter than the journey to the U.S. gulf coast, a cursory analysis would lead one to expect it to be beneficial for ANS crude to be exported to Japan and replaced by imports from elsewhere. Unfortunately, such simplistic analyses are misleading, and we must examine the implications of ANS crude exports more closely.

We would submit that the following points should be considered in any analysis.

EFFECT ON U.S. ENERGY SECURITY

At present ANS crude is integrated into the U.S. refining system. Once ANS export is permitted, that crude will leave the system, and the tankers carrying it will go into lay-up or into other trade.

Even if all contracts signed include reversion of the oil to the United States in the event of an emergency, that cannot be done overnight. A declaration of emergency would be required, and the transportation infra-structure would have to be reconstructed. Jones Act ships would be in lay-up, so waivers would be required to permit use of foreign ships. Those ships would not be waiting in Valdez, but would have to come from different parts of the globe. Some would have to come around the Horn. Once at Valdez, the ships would have to be loaded. The Trans-Panama pipeline would have to be reactivated. All in all, we would expect a minimum of 90 days after any emergency before Alaskan oil was again flowing into the U.S. refining system. During this period, Alaskan oil would continue to flow to Japan.

Since we are still filling the strategic petroleum reserve [SPR], it appears that the present level of energy security is felt to be inadequate. This 90-day diversion of Alaskan crude to Japan represents a minimum reduction in that level of security. To retain merely the present level of security would require expansion of the SPR by 90 days worth of exports or 90 x 800,000 Bbl.=72 million barrels (about a quarter of the present SPR).

Such an expansion of the SPR would involve a cost of $2.16 billion for oil purchases with a further capital investment of $310 million for creation of storage facilities. Interest costs on these expenditures would be $250 million/year, plus a further $11 million/year in operating costs related to crude storage and handling.

Overall, the cost of replacing the lost energy security from permitting ANS crude exports is about $261 million per year. This offset must be taken into account when examining the economics of this proposal.

ECONOMIC EFFICIENCY

Proponents of exports of Alaskan crude are quick to point out that the sea journey from Alaska to Houston is 6,625 miles, whereas for Alaska to Japan is only 3,400 miles—from which they argue that the oil should go to Japan. In fact, switching Alaskan oil to Japan and replacing it with Persian Gulf oil causes an overall increase in distance traveled of 20 percent since the replacement oil comes 12,500 miles from the Persian Gulf to Houston. (See appendix—table 2)

The bulk of any replacement crude will have to come from the Persian Gulf, as there is not enough Mexican crude to meet demand. OPEC crude from the Persian Gulf is the standard alternative crude.

There is, nonetheless, a significant savings in transportation costs. This results from the use of U.S.-flag Jones Act ships for the Alaska to Houston route, versus foreign flag ships for the rest of the routes. The Jones Act reserves such routes for U.S.-flag ships in order to ensure the continued survival of the U.S. Merchant Marine, much as coastal shipping in Japan is reserved for Japanese domestic ships. The distance figures given above illustrate that the "Alaska Crude Export" question is really a question of how one can avoid the restrictions of the Jones Act.

The savings are significant. (See appendix.) We estimate that if the entire 800,000 BBL/D (41MMLT/yr.) currently flowing from Valdez to Houston were permitted to go to Japan, and replaced with Persian Gulf OPEC crude oil, the U.S. savings would be $1075.5 million/yr. and the Japanese savings would be $43.5 million/yr. The savings for the Japanese are real, and will doubtless help them compete even harder in world markets. The U.S. savings, however, have some very significant offsets.

Since transportation saving on Alaska crude are reflected directly in wellhaed price, the savings are divided up between the producers (as increased profits), the State of Alaska (as increased severance tax, et cetera) and the Federal Government (on increased corporate tax, windfall profits tax, et cetera). We estimate that the $1075.5 million will be split up, with the producers getting $183.5 million, Alaska getting $281.0 million, and the Federal Government getting $611.0 million.

The savings in transportation are basically achieved by putting a significant portion of the U.S. Jones Act tanker fleet and the Trans-Panama pipeline out of business. Ship owners revenues and taxes are drastically reduced, as are the taxes paid by the Trans-Panama pipeline. Personal income tax revenues from seamens salaries also falls. All of these represent significant offsets for the U.S. Federal Government.

The most significant offset, however, is that of the massive amount of Title XI guaranteed debt which is outstanding on these ships. We estimate that at least $640 million of title XI money is at risk of default if the tanker market collapses. The loss of market is so large that even a requirement that oil going to Japan should go in U.S.-flag vessels would not be enough to avoid major default. The shorter distance, and the bigger ships that could be used, would mean that a much smaller number of ships would be required to handle the volume. Assuming that such a default were to be financed by Treasury borrowing at 10 percent this would represent an annual effective cost of $64 million.

We estimate the overall effect on Federal revenues as follows:

[In millions of dollars per year]

Increased revenues from crude taxes	+611.0
Loss of taxes on tanker profits	−157.3
Loss of income taxes on seamens wages	−40.0
Loss of taxes on pipeline profits	−39.3
Annualized cost of title XI defaults	−64.0
Net improvement	+310.4
If economic security is to be maintained and the SPR expanded to compensate:	
Extra SPR costs	−261.0
Overall effect on Federal Revenues	+49.4

Note that this savings includes a $107 million/year cut in Panama's revenues. The U.S. Government may well be requested to make this good with increased foreign aid, thus rendering the overall balance negative.

IMPROVING OUR BALANCE OF TRADE WITH JAPAN

Export of ANS crude to Japan would generate up to $8.5 billion/year and would indeed reduce our trade deficit with Japan from $17.9 billion/year to $9.4 billion/year. At the same time, however, the U.S. balance of trade with OPEC would worsen by approximately the same amount—from $11.3 billion/year to $19.8 billion/year. It would seem that little is gained. On a world basis, the U.S. balance of trade would get worse, since the United States would be paying $394 million/year of transportation costs to foreign flag vessels, versus $1,080 million/year to U.S.-flag vessels. The actual U.S. overall balance of trade would worsen by $394 million/year.

TRADE BARRIERS

Proponents of ANS exports have expressed the hope that Japanese will lower their trade barriers with the United States if we agree to export ANS crude. This seems illogical and inconsistent with past Japanese trade behavior. If the Japanese maintain trade barriers while they have a trade surplus of $17.9 billion, why should they lower them with a surplus of only $9.4 billion? In fact, pressure on Japan to lower trade barriers would be lessened. The best tactics to get U.S. beef and citrus into Japan is to threaten Japan's exports to the United States not to permit crude oil export to them when such exports must be replaced by imports from OPEC.

AIDING MEXICO

It has been suggested that our export of ANS crude to Japan would be made up by increased imports from Mexico, thus easing Mexico's financial problems. This could only occur if Mexico had surplus crude available for export. In reality, under normal market conditions, Mexico already exports at its maximum practicable rate of 1.8 million bbl/day and will not be able to export significantly above that level for the foreseeable future, especially now that financial pressures have caused a radical cut-back in Mexican oil exploration expenditures. All the switch would mean to Mexico would be that they would be paid the same amount, but by a different customer. In addition, Mexico's stated policy has been to avoid undue dependence on any one customer, and they are already exporting more oil to the United States than they really prefer. While Mexico's economic situation is such that they could not afford to refuse to send oil to the United States rather than to Japan, we should expect that Mexico would demand an economic premium, and that the switch would be perceived as yet another U.S. attempt to induce Mexican dependency on the United States.

EFFECT ON PANAMA

A significant part of the transportation costs of ANS crude at present is the $107 million paid to Panama each year for pipeline tariffs. This represents 4 percent of the Panama national budget. Cutting this off would have a significant effect on our relations with Panama, and is directly contrary to the spirit of the Administration's Caribbean Basin Initiative. One would expect the Government of Panama to request the United States to make good this deficit by increasing foreign aid.

EFFECT ON INVESTORS

Over the years, very major investments have been made to develop the ANS crude transportation infra-structure. These investments were made in good faith to carry out the expressed will of the Congress that ANS crude be reserved to the United States. This investment is still continuing. The trans-Panama pipeline has just been activated. The Northern Tier and other pipelines are being engineered at present. A reversal in policy now jeopardizes these investments, and penalizes investors. Equity requires that the interests of such investors be given as much weight as the interests of oil producers and the State of Alaska.

On these bases, Sun concludes that the best interests of the United States are served by our keeping Alaskan oil for our own use, and extending the prohibition or exports. The "savings" to be gained by doing otherwise accrue to oil producers, the State of Alaska and Japan. The losers are the U.S. seamen, U.S. tanker owners and operators of pipelines who have made investments in good faith. The U.S. Government gains little economic benefit, while losing in energy security and national security.

APPENDIX—ANS CRUDE EXPORT IMPACT

TABLE 1.—*Transportation savings ANS Crude to Houston (41MM LT./YR.)*

[Dollars/LT MM/YR.]

Current/no exports:	
U.S. costs:	
Valdez-Panama (41MM × 17.66)	$724.1
Trans-Panama Pipeline (41MM × 6.84)	280.4
Panama-Houston (41MM × 8.68)	355.9
Valdez-west coast [1] (41MM × 7.99)	327.6
Total	1,688.0
Japanese costs:	
Persian Gulf-Yokohama (41MM × 3.60)	147.6
After/all exported—United States:	
Persian Gulf-Houston (41MM × 9.61)	394.0
Valdez-west coast [1] (41MM × 5.33)	218.5
	612.5
Japan:	
Valdez-Yokohama (41MM × 2.54)	104.1
Total transportation savings:	
United States (MM/Yr)	1,075.5
Japan (MM/Yr)	43.5

[1] Lower west coast rates due to collapse of tanker market.

TABLE 2.—*Transportation mileage*

	Miles
Current:	
Alaskan oil to Houston	6,625
Persian Gulf to Japan	6,590
Total	13,215
With exports:	
Alaskan oil to Japan	3,400
Persian Gulf to Houston	12,500
Total	15,900

TABLE 3.—*Savings distribution*

Since the Kuparuk Field is windfall profit tax [WPT] exempt, crude would be 200MBbl/D WPT Exempt, remainder nonexempt. Saving or transportation would flow back to the wellhead price and be distributed as follows:

[Revenue distribution millions of dollars per year]

	Federal	Alaska	Producers
Savings:			
Exempt	77.3	72.5	91.8
Nonexempt	533.7	208.5	91.7
Total	611.0	281.0	183.5